1

SEQUENCE LISTING

<110> O'Brien, Timothy

<120> Repeat Sequences of the CA125 Gene and Their Use for Diagnostic and
Therapeutic Interventions

<130> 40715-258841

<150> US 60/284,175

<151> 2001-04-17

<160> 306

<170> PatentIn version 3.0

<210> 1

<211> 13

<212> PRT

<213> Homo sapiens

<400> 1

Gln His Pro Gly Ser Arg Lys Phe Lys Thr Thr Glu Gly
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<210> 2

<211> 11

<212> PRT

<213> Homo sapiens

<400> 2

Phe Leu Thr Val Glu Arg Val Leu Gln Gly Leu

1   5   10

<210> 3

<211> 8

<212> PRT

<213> Homo sapiens

<400> 3

Asp Thr Tyr Val Gly Pro Leu Tyr
1   5

<210> 4

<211> 8

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<213> Homo sapiens

<400> 4

Asp Gly Ala Ala Asn Gly Val Asp
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<211> 240

<212> DNA

<213> Homo sapiens

<220>

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<222> (1)..(240)

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cgt cga cct ggc tct aga aag ttt aac acc acg gag aga gtc ctt cag   48
Arg Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
1   5   10   15

ggt ctg ctc agg cct gtg ttc aag aac acc agt gtt ggc cct ctg tac   96
Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
                   20   25   30

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tct ggc tgc aga ctg acc ttg ctc agg ccc aag aag gat ggg gca gcc    144
Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala
        35              40              45

acc aaa gtg gat gcc atc tgc acc tac cgc cct gat ccc aaa agc cct    192
Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro
    50              55              60

gga ctg gac aga gag cag cta tac tgg gag ctg agc cag ggt gat gca    240
Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Gly Asp Ala
65              70              75              80
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<210> 6

<211> 80

<212> PRT

<213> Homo sapiens

<400> 6

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Arg Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
1               5               10              15

Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
            20              25              30

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala
        35              40              45

Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro
    50              55              60

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Gly Asp Ala
65              70              75              80
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<210> 7

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 7
ggagagggtt ctgcagggtc   20

<210> 8

<211> 6

<212> PRT

<213> Artificial

<220>

<223> Synthetic Primer

<400> 8

Glu Arg Val Leu Gln Gly
1   5

<210> 9

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 9
gtgaatggta tcaggagagg   20

<210> 10

<211> 6

<212> PRT

<213> Artificial

<220>

<223> Synthetic Primer

<400> 10

Pro Leu Leu Ile Pro Phe
1   5

<210> 11

<211> 131

<212> PRT

<213> Homo sapiens

<400> 11

Glu Arg Val Leu Gln Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                20   25   30

Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro
            35   40   45

Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        50   55   60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ala Leu Asp
65   70   75   80

Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser
                85   90   95

Thr Thr Ser Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys
            100   105   110

Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile
        115   120   125

Pro Phe Thr
    130

<210> 12

<211> 130

<212> PRT

<213> Homo sapiens

<400> 12

Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser
1   5   10   15

Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                20   25   30

Lys Asp Gly Ala Ala Thr Arg Ala Asp Ala Val Cys Thr His Arg Pro

```
        35                      40                      45
Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu
    50                  55                  60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr
                85                  90                  95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
            100                 105                 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile
        115                 120                 125

Pro Phe
    130

<210>  13

<211>  132

<212>  PRT

<213>  Homo sapiens


<400>  13

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser
1                   5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu
            20                  25                  30

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His Arg Leu
        35                  40                  45

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser
                85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly
            100                 105                 110

Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu
        115                 120                 125

Leu Ile Pro Phe
    130
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<210> 14

<211> 130

<212> PRT

<213> Homo sapiens

<400> 14

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1   5   10   15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                20   25   30

Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu
            35   40   45

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
        50   55   60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala
                85   90   95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
            100   105   110

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile
            115   120   125

Pro Phe
    130

<210> 15

<211> 130

<212> PRT

<213> Homo sapiens

<400> 15

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu
                20   25   30

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu
            35   40   45

Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu
    50   55   60

Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu
            85   90   95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
        100   105   110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Phe Leu Ile
        115   120   125

Pro Phe
    130

<210> 16

<211> 130

<212> PRT

<213> Homo sapiens

<400> 16

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Ala Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu
        35   40   45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50   55   60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
            85   90   95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Leu Ser Gly
        100   105   110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile
        115   120   125

Pro Phe
    130

<210> 17

<211> 130

<212> PRT

<213> Homo sapiens

<400> 17

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Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                20                  25                  30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35                  40                  45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
                85                  90                  95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
            100                 105                 110

Thr Pro Ala Ser Leu Pro Gly His Ile Val Pro Gly Pro Leu Leu Ile
        115                 120                 125

Pro Phe
    130
```

<210> 18

<211> 131

<212> PRT

<213> Homo sapiens

<400> 18

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Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                20                  25                  30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
        35                  40                  45
```

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50   55   60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Asn Pro Trp Ser Ser Val Pro
            85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
            100   105   110

Thr Pro Ser Pro Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
        115   120   125

Pro Phe Thr
    130

<210> 19

<211> 131

<212> PRT

<213> Homo sapiens

<400> 19

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35   40   45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65   70   75   80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
            85   90   95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
            100   105   110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val
        115   120   125

Pro Phe Thr
    130

<210> 20

<211> 130

<212> PRT

<213> Homo sapiens

<400> 20

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
            20   25   30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
        35   40   45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
            85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
            100   105   110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
            115   120   125

Pro Phe
    130

<210> 21

<211> 131

<212> PRT

<213> Homo sapiens

<400> 21

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser
1   5   10   15

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro
        35   40   45

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro
            85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly
        100   105   110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile
        115   120   125

Pro Phe Thr
    130

<210> 22

<211> 282

<212> PRT

<213> Homo sapiens

<400> 22

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1   5   10   15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
            20   25   30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
        35   40   45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50   55   60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
            85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly
        100   105   110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met
        115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    130   135   140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu

```
145                     150                     155                     160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165                     170                     175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
            180                     185                     190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
        195                     200                     205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210                     215                     220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225                     230                     235                     240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
                245                     250                     255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
            260                     265                     270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu
        275                     280

<210>  23

<211>  286

<212>  PRT

<213>  Homo sapiens


<400>  23

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1               5                       10                      15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
            20                      25                      30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
        35                      40                      45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50                      55                      60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65                      70                      75                      80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu
                85                      90                      95

Thr Thr Ser Thr Pro Trp Ser Thr Val Asp Leu Gly Thr Ser Gly
            100                     105                     110
```

```
Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile
        115             120             125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
    130             135             140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145             150             155             160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu
            165             170             175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
        180             185             190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser
        195             200             205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr
    210             215             220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu
225             230             235             240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
            245             250             255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
        260             265             270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
        275             280             285
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<210> 24

<211> 250

<212> PRT

<213> Homo sapiens

<400> 24

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Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1               5               10              15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20              25              30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35              40              45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50              55              60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65              70              75              80
```

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro
                85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
            100   105   110

Thr Pro Phe Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val
        115   120   125

Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp
    130   135   140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145   150   155   160

Gln Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu
            165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala
            180   185   190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
        195   200   205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Trp Ile Pro
            245   250

<210> 25

<211> 286

<212> PRT

<213> Homo sapiens

<400> 25

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35   40   45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp

```
65                      70                      75                      80
Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
                    85                  90                  95
Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
                100                 105                 110
Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile
            115                 120                 125
Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
        130                 135                 140
Met His His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145                 150                 155                 160
Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu
                165                 170                 175
Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala
                180                 185                 190
Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser
            195                 200                 205
Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr
        210                 215                 220
Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                 230                 235                 240
Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr
                245                 250                 255
Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro
            260                 265                 270
Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe
        275                 280                 285
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<210> 26

<211> 286

<212> PRT

<213> Homo sapiens

<400> 26

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Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1               5                   10                  15
Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30
```

```
Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35                  40                  45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        50                  55                  60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65                  70                  75                  80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr
                85                  90                  95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
            100                 105                 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile
            115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
        130                 135                 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala
                180                 185                 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
            195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
        210                 215                 220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
            260                 265                 270

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe
        275                 280                 285
```

<210>   27

<211>   286

<212>   PRT

<213>   Homo sapiens

<400>   27

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Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35                  40                  45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
            85                  90                  95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Phe Gly
            100                 105                 110

Thr Pro Ala Ser Leu His Gly His Thr Ala Pro Gly Pro Val Leu Val
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    130                 135                 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
            165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala
        180                 185                 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
        195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
    210                 215                 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
            245                 250                 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
        260                 265                 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe
        275                 280                 285
```

```
<210>  28

<211>  286
```

<212> PRT

<213> Homo sapiens

<400> 28

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu
        35   40   45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
        50   55   60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
                85   90   95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
                100   105   110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val
        115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
        130   135   140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala
            180   185   190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
        195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
        210   215   220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
                245   250   255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
            260   265   270

```
Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe
        275             280             285
```

<210> 29

<211> 281

<212> PRT

<213> Homo sapiens

<400> 29

```
Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser
1                   5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
        35                  40                  45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro
            85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
            100                 105                 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
    130                 135                 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
            165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala
            180                 185                 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
        195                 200                 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210                 215                 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                 230                 235                 240
```

Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr
                245   250   255

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu
                260   265   270

Pro Ser Pro Thr Thr Ala Gly Pro Leu
            275   280

<210>   30

<211>   217

<212>   PRT

<213>   Homo sapiens

<400>   30

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser
1   5   10   15

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu
                20   25   30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro
            35   40   45

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
        50   55   60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro
                85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly
            100   105   110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile
        115   120   125

Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    130   135   140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
            180   185   190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg

```
          195                    200                    205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr
    210                    215


<210>  31

<211>  286

<212>  PRT

<213>  Homo sapiens


<400>  31

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser
1                   5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys
            20                  25                  30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
        35                  40                  45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
            85                  90                  95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
            100                 105                 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    130                 135                 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
            165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
            180                 185                 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
        195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210                 215                 220
```

```
His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
                245                 250                 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
            260                 265                 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
        275                 280                 285
```

<210> 32

<211> 288

<212> PRT

<213> Homo sapiens

<400> 32

```
Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1               5                   10                  15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys
            20                  25                  30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
        35                  40                  45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
                85                  90                  95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
            100                 105                 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
    130                 135                 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
            165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
            180                 185                 190
```

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
        195   200   205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
        210   215   220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
            245   250   255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
        260   265   270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe
        275   280   285

<210> 33

<211> 284

<212> PRT

<213> Homo sapiens

<400> 33

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
        35   40   45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu
        50   55   60

Ser Gln Leu Thr His Asp Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
                85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
        100   105   110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
        115   120   125

Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
        130   135   140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu

```
145                     150                     155                     160
Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
                165                     170                     175
Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala
            180                     185                     190
Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly
            195                     200                     205
Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr
        210                     215                     220
Asn Ser Ile His Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
225                     230                     235                     240
Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
                245                     250                     255
Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser
            260                     265                     270
Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
        275                     280

<210>  34

<211>  288

<212>  PRT

<213>  Homo sapiens


<400>  34

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser
1                   5                   10                  15
Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
                20                      25                      30
Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
            35                      40                      45
Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        50                      55                      60
Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65                      70                      75                      80
Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
                85                      90                      95
Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
                100                     105                     110
```

```
Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
        130                 135                 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
                180                 185                 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser
                195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
        210                 215                 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
        260                 265                 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe
        275                 280                 285

<210>  35

<211>  274

<212>  PRT

<213>  Homo sapiens


<400>  35

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser
1               5                   10                  15

Val Gly Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                20                  25                  30

Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro
        35                  40                  45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu
        50                  55                  60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80
```

Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr
           85   90   95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
        100   105   110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val
        115   120   125

Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn
    130   135   140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu
        165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
        180   185   190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser
        195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
        245   250   255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser
    260   265   270

Leu Pro

<210> 36

<211> 386

<212> PRT

<213> Homo sapiens

<400> 36

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1   5   10   15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
        20   25   30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu

```
              35                      40                      45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65                  70                  75                      80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
            85                  90                  95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
            100                 105                 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala
    130                 135                 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu
            165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
            180                 185                 190

Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser
    195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210                 215                 220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
            245                 250                 255

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser
        260                 265                 270

Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu
    275                 280                 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro
    290                 295                 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu
305                 310                 315                 320

Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys
                325                 330                 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val
            340                 345                 350
```

```
Asp Ala Ile Cys Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn
        355                 360             365
```

```
Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr
    370             375             380
```

```
Glu Leu
385
```

<210> 37

<211> 438

<212> PRT

<213> Homo sapiens

<400> 37

```
Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg
1               5               10              15
```

```
Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
        20              25              30
```

```
Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
        35              40              45
```

```
Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50              55              60
```

```
Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65              70              75              80
```

```
Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro
            85              90              95
```

```
Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
        100             105             110
```

```
Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
        115             120             125
```

```
Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
    130             135             140
```

```
Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145             150             155             160
```

```
Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
            165             170             175
```

```
Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala
        180             185             190
```

```
Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly
    195             200             205
```

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
            245   250   255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser
        260   265   270

Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu
        275   280   285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
        290   295   300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu
305   310   315   320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
            325   330   335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val
        340   345   350

Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp
        355   360   365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile
        370   375   380

Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly
385   390   395   400

Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser
        405   410   415

Thr Val His Leu Gly Thr Ser Glu Ile His Pro Ser Leu Pro Arg Pro
        420   425   430

Ile Val Pro Gly Pro Leu
        435

<210> 38

<211> 420

<212> PRT

<213> Homo sapiens

<400> 38

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys

1				5					10					15	

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn
            20   25   30

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser
        35   40   45

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg
    50   55   60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr
65   70   75   80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr
            85   90   95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro
            100   105   110

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met
        115   120   125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln
    130   135   140

Gly Leu Leu Thr Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr
145   150   155   160

Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala
            165   170   175

Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro
            180   185   190

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn
        195   200   205

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
    210   215   220

Val Asn Gly Phe Thr His Arg Ser Leu Gly Leu Thr Thr Ser Thr Pro
225   230   235   240

Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val
            245   250   255

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn
        260   265   270

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly
    275   280   285

Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Arg
    290   295   300

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
305   310   315   320

```
Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp
            325             330             335

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg
            340             345             350

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu
            355             360             365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
        370             375             380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr
385             390             395             400

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser
            405             410             415

Ala Ala Ser Pro
            420
```

<210>   39

<211>   439

<212>   PRT

<213>   Homo sapiens

<400>   39

```
Glu Arg Val Leu Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser
1               5               10              15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
            20              25              30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
        35              40              45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        50              55              60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65              70              75              80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
            85              90              95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
        100             105             110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
        115             120             125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
        130             135             140
```

```
Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
            180                 185                 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
        195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr
    210                 215                 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
            260                 265                 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu
    275                 280                 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
    290                 295                 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu
305                 310                 315                 320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
            325                 330                 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val
        340                 345                 350

Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp
        355                 360                 365

Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr
    370                 375                 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
385                 390                 395                 400

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser
                405                 410                 415

Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His
        420                 425                 430

Thr Ala Pro Gly Pro Leu Leu
            435
```

<210> 40

<211> 424

<212> PRT

<213> Homo sapiens

<400> 40

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1   5   10   15

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His
            20   25   30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
        35   40   45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
    50   55   60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser
65   70   75   80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr
                85   90   95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu
            100   105   110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu
        115   120   125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg
    130   135   140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly
145   150   155   160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp
                165   170   175

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro
            180   185   190

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln
        195   200   205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp
    210   215   220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr
225   230   235   240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro
                245   250   255

```
Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe
            260             265             270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His
        275             280             285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
    290             295             300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser
305             310             315             320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr
            325             330             335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly
        340             345             350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser
        355             360             365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val
    370             375             380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
385             390             395             400

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro
            405             410             415

Gly His Thr Ala Pro Val Pro Leu
            420
```

<210> 41

<211> 418

<212> PRT

<213> Homo sapiens

<400> 41

```
Thr Leu Leu Arg Pro Lys Lys Asp Gly Val Ala Thr Gly Val Asp Ala
1               5               10              15

Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu
            20              25              30

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu
        35              40              45

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
    50              55              60

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val
```

```
65                      70                      75                      80
Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile
                85                      90                      95
Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile
            100                     105                     110
Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys
            115                     120                     125
Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe
            130                     135                     140
Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu
145                     150                     155                     160
Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys
                165                     170                     175
Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu
            180                     185                     190
Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro
            195                     200                     205
Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg
210                     215                     220
Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val
225                     230                     235                     240
Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly
                245                     250                     255
Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln
                260                     265                     270
Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Pro Asn Thr Met
            275                     280                     285
Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
            290                     295                     300
Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
305                     310                     315                     320
Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu
                325                     330                     335
Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
            340                     345                     350
Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp
            355                     360                     365
Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
            370                     375                     380
```

```
Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
385             390             395             400

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile
                405             410             415

Pro Phe
```

<210> 42

<211> 443

<212> PRT

<213> Homo sapiens

<400> 42

```
Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1               5               10              15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20              25              30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro
        35              40              45

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu
    50              55              60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65              70              75              80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
            85              90              95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu
            100             105             110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu
        115             120             125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp
    130             135             140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145             150             155             160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
            165             170             175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala
        180             185             190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu
        195             200             205
```

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Pro Ser
                245   250   255

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser
            260   265   270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr
        275   280   285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg
    290   295   300

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
305   310   315   320

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
            325   330   335

Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly
            340   345   350

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu
        355   360   365

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile
    370   375   380

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn
385   390   395   400

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr
                405   410   415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly
            420   425   430

His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe
        435   440

<210> 43

<211> 442

<212> PRT

<213> Homo sapiens

<400> 43

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser

```
1                    5                      10                        15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
                20                    25                    30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
        35                    40                    45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50                    55                    60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65                    70                    75                    80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
                85                    90                    95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly
            100                   105                   110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met
        115                   120                   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    130                   135                   140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu
145                   150                   155                   160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
                165                   170                   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
            180                   185                   190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
        195                   200                   205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
    210                   215                   220

Asn Asp Ile Glu Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                   230                   235                   240

Tyr Val Asn Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr
                245                   250                   255

Leu Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
            260                   265                   270

Leu Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu
        275                   280                   285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro
    290                   295                   300

Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu
305                   310                   315                   320
```

```
Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys
                325                 330                 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val
            340                 345                 350

Val Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp
            355                 360                 365

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr
    370                 375                 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly
385                 390                 395                 400

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser
                405                 410                 415

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro
            420                 425                 430

Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
        435                 440
```

<210> 44

<211> 442

<212> PRT

<213> Homo sapiens

<400> 44

```
Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1                 5                 10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35                  40                  45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        50                  55                  60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65                  70                  75                  80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
                85                  90                  95

Ile Thr Ser Thr Pro Gly Thr Ser Thr His Leu Gly Thr Ser Glu
            100                 105                 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile
        115                 120                 125
```

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
    130   135   140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu
        165   170   175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Ser Ser
        180   185   190

Thr Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp
        195   200   205

Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr
    210   215   220

Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Arg Ser Phe Met Pro Thr Thr Ser Thr
        245   250   255

Leu Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
        260   265   270

Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu
        275   280   285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
    290   295   300

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu
305   310   315   320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
        325   330   335

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val
        340   345   350

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn
        355   360   365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu
    370   375   380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
385   390   395   400

Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser
        405   410   415

Thr Val Asp Pro Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro
        420   425   430

Thr Ile Met Ala Ala Gly Pro Leu Leu Ile

435   440

<210> 45

<211> 379

<212> PRT

<213> Homo sapiens

<400> 45

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1   5   10   15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu
        35   40   45

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala
                85   90   95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
            100   105   110

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile
        115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp
    130   135   140

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145   150   155   160

Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Arg Ser Glu Lys Asp Gly Ala
            180   185   190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
        195   200   205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225   230   235   240

```
Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
                260                 265                 270

Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu
                275                 280                 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
        290                 295                 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu
305                 310                 315                 320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
                325                 330                 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val
                340                 345                 350

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn
        355                 360                 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu
    370                 375
```

<210> 46

<211> 439

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(439)

<223> Any "X" = any amino acid


```
<400> 46

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu
        35                  40                  45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
```

```
        50                    55                      60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                      70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
                    85                  90                  95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
            100                 105                 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
    130                 135                 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Cys Leu Val Pro Cys Ser Arg Asn Thr Asn Val Gly Leu Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            180                 185                 190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        195                 200                 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    210                 215                 220

Xaa Xaa Xaa Xaa Xaa Xaa Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
                245                 250                 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
            260                 265                 270

Leu Pro Ser Pro Thr Thr Val Pro Leu Leu Val Pro Phe Thr Leu Asn
        275                 280                 285

Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly
    290                 295                 300

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly
305                 310                 315                 320

Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
                325                 330                 335

Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp
            340                 345                 350

Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg
        355                 360                 365
```

```
Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val Thr Asn Gly Ile Lys Glu
    370             375             380

Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe
385             390             395                 400

Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr
            405             410             415

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr
        420             425             430

Thr Ala Gly Pro Leu Leu Ile
        435
```

<210> 47

<211> 1366

<212> PRT

<213> Homo sapiens

<400> 47

```
Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1               5               10              15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
        20              25              30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
        35              40              45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50              55              60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65              70              75              80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
                85              90              95

Thr Thr Ser Thr Pro Thr Ser Thr Val Asp Val Gly Thr Ser Gly
            100             105             110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met
        115             120             125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    130             135             140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu
145             150             155             160

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165             170             175
```

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
            180   185   190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
            195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
        210   215   220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
                245   250   255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
            260   265   270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu
        275   280   285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro
    290   295   300

Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu
305   310   315   320

Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys
                325   330   335

Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met
            340   345   350

Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp
        355   360   365

Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr
    370   375   380

Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
385   390   395   400

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser
                405   410   415

Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
            420   425   430

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile
        435   440   445

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys
    450   455   460

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
465   470   475   480

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu

```
                        485                    490                      495

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys
            500                    505                    510

Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu
        515                    520                    525

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro
        530                    535                    540

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg
545                    550                    555                    560

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
                565                    570                    575

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly
            580                    585                    590

Pro Leu Leu Val Pro Phe Thr Asn Phe Thr Ile Thr Asn Leu Gln
        595                    600                    605

Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr
        610                    615                    620

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
625                    630                    635                    640

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                645                    650                    655

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
            660                    665                    670

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        675                    680                    685

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
        690                    695                    700

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
705                    710                    715                    720

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
                725                    730                    735

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile
            740                    745                    750

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
        755                    760                    765

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu
        770                    775                    780

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu
785                    790                    795                    800
```

Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser
                805   810   815

Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp
            820   825   830

Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr
            835   840   845

Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
850   855   860

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
865   870   875   880

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
            885   890   895

Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu
            900   905   910

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
            915   920   925

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu
            930   935   940

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
945   950   955   960

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val
            965   970   975

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn
            980   985   990

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu
            995   1000   1005

Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
     1010   1015   1020

Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly
     1025   1030   1035

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu
     1040   1045   1050

Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu
     1055   1060   1065

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His
     1070   1075   1080

Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly
     1085   1090   1095

Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr
     1100   1105   1110

```
Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro Glu Lys  Asp Gly Ala
    1115              1120              1125

Ala Thr  Arg Val Asp Ala Val  Cys Thr His Arg Pro  Asp Pro Lys
    1130              1135              1140

Ser Pro  Gly Leu Asp Arg Glu  Arg Leu Tyr Trp Lys  Leu Ser Gln
    1145              1150              1155

Leu Thr  His Gly Ile Ile Glu  Leu Gly Pro Tyr Thr  Leu Asp Arg
    1160              1165              1170

His Ser  Phe Tyr Val Asn Gly  Phe Thr His Gln Ser  Ser Met Thr
    1175              1180

Thr Thr  Arg Thr Pro Asp Thr  Ser Thr Met His Leu  Ala Thr Ser
    1190              1195              1200

Arg Thr  Pro Ala Ser Leu Ser  Gly Pro Thr Thr Ala  Ser Pro Leu
    1205              1210              1215

Leu Val  Leu Phe Thr Ile Asn  Phe Thr Ile Thr Asn  Gln Arg Tyr
    1220              1225              1230

Glu Glu  Asn Met His His Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    1235              1240              1245

Glu Arg  Val Leu Gln Gly Leu  Leu Arg Pro Val Phe  Lys Asn Thr
    1250              1255              1260

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
    1265              1270              1275

Pro Lys  Lys Asp Gly Ala Ala  Thr Lys Val Asp Ala  Ile Cys Thr
    1280              1285              1290

Tyr Arg  Pro Asp Pro Lys Ser  Pro Gly Leu Asp Arg  Glu Gln Leu
    1295              1300              1305

Tyr Trp  Glu Leu Ser Gln Leu  Thr His Ser Ile Thr  Glu Leu Gly
    1310              1315              1320

Pro Tyr  Thr Gln Asp Arg Asp  Ser Leu Tyr Val Asn  Gly Phe Thr
    1325              1330              1335

His Arg  Ser Ser Val Pro Thr  Thr Ser Ile Pro Gly  Thr Ser Ala
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Val His  Leu Glu Thr Ser Gly  Thr Pro Ala Ser Leu  Pro
    1355              1360              1365
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<210> 48

<211> 1148

<212> PRT

<213> Homo sapiens

<400> 48

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            20   25   30

Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp
            35   40   45

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Ile
        50   55   60

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Phe Tyr Val Asn Gly
65   70   75   80

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser
                85   90   95

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro
            100   105   110

Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile
        115   120   125

Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys
        130   135   140

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe
145   150   155   160

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu
            165   170   175

Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys
        180   185   190

Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu
        195   200   205

Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro
    210   215   220

Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg
225   230   235   240

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
            245   250   255

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly Pro Ser Ala Ala Ser
        260   265   270

Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg
        275   280   285

Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr
    290   295   300

Glu Arg Val Leu Gln Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser
305   310   315   320

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                325   330   335

Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro
            340   345   350

Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        355   360   365

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp
    370   375   380

Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser
385   390   395   400

Thr Thr Ser Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys
                405   410   415

Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser His Leu Leu Ile
            420   425   430

Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
        435   440   445

Met Trp Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
    450   455   460

Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
465   470   475   480

Ser Gly Ser Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Glu Ala
                485   490   495

Thr Gly Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Thr Gly Pro
            500   505   510

Gly Leu Asp Arg Glu Gln Leu Tyr Leu Glu Leu Ser Gln Leu Thr His
        515   520   525

Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
    530   535   540

Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Thr Gly
545   550   555   560

Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn Asn Leu
                565   570   575

Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe Asn Ile
            580   585   590

Thr Asp Asn Val Met Lys His Leu Leu Ser Pro Leu Phe Gln Arg Ser

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Ser Leu Gly Ala Arg Tyr Thr Gly Cys Arg Val Ile Ala Leu Arg Ser
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Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr Leu
625                 630                 635                     640
Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His Glu
                645                 650                     655
Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser Leu
            660                 665                 670
Asp Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn Glu Pro Gly Leu Asp
        675                 680                 685
Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu
    690                 695                 700
Ser Glu Ala Thr Thr Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu
705                 710                 715                     720
Asn Phe Thr Ile Ser Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly
                725                 730                     735
Ser Ala Thr Phe Asn Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg
            740                 745                 750
Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln
        755                 760                 765
Leu Ile Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp
    770                 775                 780
Thr Thr Cys Thr Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile
785                 790                 795                     800
Gln Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln
                805                 810                     815
Leu Gly Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr
            820                 825                 830
Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His
        835                 840                 845
Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr
    850                 855                 860
Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys
865                 870                 875                     880
Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu
                885                 890                     895
Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn
            900                 905                 910
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Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn
    915   920   925

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His
    930   935   940

Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser
945   950   955   .   960

Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser
         965   970   975

Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg
        980   985   990

Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys
        995   1000   1005

Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro
    1010   1015   1020

Asn Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro
    1025   1030   1035

Leu Ala Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu
    1040   1045   1050

Arg Met Thr Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp
    1055   1060   1065

Arg Ser Ser Val Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu
    1070   1075   1080

Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe Trp Ala Val Ile Leu
    1085   1090   1095

Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr Cys Leu Ile Cys
    1100   1105   1110

Gly Val Leu Val Thr Thr Arg Arg Arg Lys Lys Glu Gly Glu Tyr
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Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His Leu Asp
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Leu Glu Asp Leu Gln
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<210> 49

<211> 6833

<212> DNA

<213> Homo sapiens

<400> 49

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<210> 50

<211> 2248

<212> PRT

<213> Homo sapiens

<400> 50

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Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
        35   40   45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50   55   60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro
                85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly
            100   105   110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met
        115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    130   135   140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu
145   150   155   160

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
            180   185   190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
        195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His His Gln Asn Ser Val Pro Thr Thr Ser Thr
                245   250   255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
            260   265   270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu
        275   280   285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro
    290   295   300

Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu
305   310   315   320

Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys
                325   330   335

Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met
                340   345   350

Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp
    355   360   365

Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr
    370   375   380

Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
385   390   395   400

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser
                405   410   415

Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His
                420   425   430

Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile
    435   440   445

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys
    450   455   460

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
465   470   475   480

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu
                485   490   495

Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys
                500   505   510

Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu
    515   520   525

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro
    530   535   540

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg
545   550   555   560

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
                565   570   575

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly
    580   585   590

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln

                595   600   605

Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr
    610   615   620

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
625   630   635   640

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                645   650   655

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
            660   665   670

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        675   680   685

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
    690   695   700

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro
705   710   715   720

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu
                725   730   735

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile
            740   745   750

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
        755   760   765

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu
    770   775   780

Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu
785   790   795   800

Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser
            805   810   815

Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp
            820   825   830

Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr
        835   840   845

Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
    850   855   860

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
865   870   875   880

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
                885   890   895

Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu
            900   905   910

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr
915   920   925

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu
930   935   940

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
945   950   955   960

Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val
965   970   975

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn
980   985   990

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu
995   1000   1005

Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
1010   1015   1020

Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly
1025   1030   1035

Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu
1040   1045   1050

Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu
1055   1060   1065

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His
1070   1075   1080

Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly
1085   1090   1095

Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr
1100   1105   1110

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
1115   1120   1125

Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys
1130   1135   1140

Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln
1145   1150   1155

Leu Thr His Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp Arg
1160   1165   1170

His Ser Phe Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr
1175   1180   1185

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser
1190   1195   1200

Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu
1205   1210   1215

Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr
    1220   1225   1230

Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr
    1235   1240   1245

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr
    1250   1255   1260

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
    1265   1270   1275

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr
    1280   1285   1290

Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu
    1295   1300   1305

Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly
    1310   1315   1320

Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
    1325   1330   1335

His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala
    1340   1345   1350

Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly Pro
    1355   1360   1365

Ser Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr
    1370   1375   1380

Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser
    1385   1390   1395

Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg
    1400   1405   1410

Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys
    1415   1420   1425

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala Thr Gly
    1430   1435   1440

Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro Arg
    1445   1450   1455

Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His
    1460   1465   1470

Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu
    1475   1480   1485

Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser
    1490   1495   1500

Thr Pro Gly Tnr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro

```
        1505                    1510                    1515

Ala Ser  Ile Phe Gly Pro Ser  Ala Ala Ser His Leu  Leu Ile Leu
    1520                    1525                    1530

Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Arg Tyr  Glu Glu Asn
    1535                    1540                    1545

Met Trp  Pro Gly Ser Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu
    1550                    1555                    1560

Gln Gly  Leu Leu Arg Pro Leu  Phe Lys Asn Thr Ser  Val Gly Pro
    1565                    1570                    1575

Leu Tyr  Ser Gly Ser Arg Leu  Thr Leu Leu Arg Pro  Glu Lys Asp
    1580                    1585                    1590

Gly Glu  Ala Thr Gly Val Asp  Ala Ile Cys Thr His  Arg Pro Asp
    1595                    1600                    1605

Pro Thr  Gly Pro Gly Leu Asp  Arg Glu Gln Leu Tyr  Leu Glu Leu
    1610                    1615                    1620

Ser Gln  Leu Thr His Ser Ile  Thr Glu Leu Gly Pro  Tyr Thr Leu
    1625                    1630                    1635

Asp Arg  Asp Ser Leu Tyr Val  Asn Gly Phe Thr His  Arg Ser Ser
    1640                    1645                    1650

Val Pro  Thr Thr Ser Thr Gly  Val Val Ser Glu Glu  Pro Phe Thr
    1655                    1660                    1665

Leu Asn  Phe Thr Ile Asn Asn  Leu Arg Tyr Met Ala  Asp Met Gly
    1670                    1675                    1680

Gln Pro  Gly Ser Leu Lys Phe  Asn Ile Thr Asp Asn  Val Met Lys
    1685                    1690                    1695

His Leu  Leu Ser Pro Leu Phe  Gln Arg Ser Ser Leu  Gly Ala Arg
    1700                    1705                    1710

Tyr Thr  Gly Cys Arg Val Ile  Ala Leu Arg Ser Val  Lys Asn Gly
    1715                    1720                    1725

Ala Glu  Thr Arg Val Asp Leu  Leu Cys Thr Tyr Leu  Gln Pro Leu
    1730                    1735                    1740

Ser Gly  Pro Gly Leu Pro Ile  Lys Gln Val Phe His  Glu Leu Ser
    1745                    1750                    1755

Gln Gln  Thr His Gly Ile Thr  Arg Leu Gly Pro Tyr  Ser Leu Asp
    1760                    1765                    1770

Lys Asp  Ser Leu Tyr Leu Asn  Gly Tyr Asn Glu Pro  Gly Leu Asp
    1775                    1780                    1785

Glu Pro  Pro Thr Thr Pro Lys  Pro Ala Thr Thr Phe  Leu Pro Pro
    1790                    1795                    1800
```

Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr His Leu Lys Thr Leu
    1805   1810   1815

Thr Leu Asn Phe Thr Ile Ser Asn Leu Gln Tyr Ser Pro Asp Met
    1820   1825   1830

Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr Glu Gly Val Leu Gln
    1835   1840   1845

His Leu Leu Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe
    1850   1855   1860

Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg Pro Glu Lys Asp Gly
    1865   1870   1875

Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr His Pro Asp Pro
    1880   1885   1890

Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp Glu Leu Ser
    1895   1900   1905

Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val Leu Asp
    1910   1915   1920

Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu Ser
    1925   1930   1935

Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn
    1940   1945   1950

Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr Ile Thr Leu Leu
    1955   1960   1965

Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln
    1970   1975   1980

Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met
    1985   1990   1995

Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn Leu
    2000   2005   2010

Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn
    2015   2020   2025

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile
    2030   2035   2040

His Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser
    2045   2050   2055

Ser Ser Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu
    2060   2065   2070

Pro Tyr Ser Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln
    2075   2080   2085

Arg Asn Lys Arg Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg
    2090   2095   2100

```
Asn Ser  Ser Ile Lys Ser Tyr  Phe Ser Asp Cys Gln  Val Ser Thr
    2105             2110                 2115

Phe Arg  Ser Val Pro Asn Arg  His His Thr Gly Val  Asp Ser Leu
    2120             2125                 2130

Cys Asn  Phe Ser Pro Leu Ala  Arg Arg Val Asp Arg  Val Ala Ile
    2135             2140                 2145

Tyr Glu  Glu Phe Leu Arg Met  Thr Arg Asn Gly Thr  Gln Leu Gln
    2150             2155                 2160

Asn Phe  Thr Leu Asp Arg Ser  Ser Val Leu Val Asp  Gly Tyr Ser
    2165             2170                 2175

Pro Asn  Arg Asn Glu Pro Leu  Thr Gly Asn Ser Asp  Leu Pro Phe
    2180             2185                 2190

Trp Ala  Val Ile Leu Ile Gly  Leu Ala Gly Leu Leu  Gly Leu Ile
    2195             2200                 2205

Thr Cys  Leu Ile Cys Gly Val  Leu Val Thr Thr Arg  Arg Arg Lys
    2210             2215                 2220

Lys Glu  Gly Glu Tyr Asn Val  Gln Gln Gln Cys Pro  Gly Tyr Tyr
    2225             2230                 2235

Gln Ser  His Leu Asp Leu Glu  Asp Leu Gln
    2240             2245
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<210> 51

<211> 24

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 51
cagcagagac cagcacgagt actc   24

<210> 52

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 52
tccactgcca tggctgagct   20

<210> 53

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 53
ccagcacagc tcttcccagg ac   22

<210> 54

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 54
ggaatggctg agctgacgtc tg   22

<210> 55

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 55

cttcccagga caacctcaag g   21

<210> 56

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 56
gcaggatgag tgagccacgt g   21

<210> 57

<211> 22

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 57
gtcagatctg gtgacctcac tg   22

<210> 58

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 58
gaggcactgg aaagcccaga g   21

<210> 59

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<211>  25

<212>  DNA

<213>  Artificial


<220>

<223>  Synthetic Primer

<400>  59
ctgatggcat tatggaacac atcac                                    25


<210>  60

<211>  22

<212>  DNA

<213>  Artificial


<220>

<223>  Synthetic Primer

<400>  60
cccagaacga gagaccagtg ag                                       22


<210>  61

<211>  24

<212>  DNA

<213>  Artificial


<220>

<223>  Synthetic Primer

<400>  61
gctgatggcg atgaatgaac actg                                     24


<210>  62

<211>  22

<212>  DNA
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<210> Artificial

<220>

<223> Synthetic Primer

<400> 62
cccagaacga gagaccagtg ag   22

<210> 63

<211> 35

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 63
cgcggatccg aacactgcgt ttgctggctt tgatg   35

<210> 64

<211> 23

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 64
cctctgtgtg ctgcttcatt ggg   23

<210> 65

<211> 32

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 65
accggatcca tgggccacac agagcctggc cc   32

<210> 66

<211> 29

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 66
tgtaagctta ggcagggagg atggagtcc   29

<210> 67

<211> 507

<212> DNA

<213> Homo sapien

<400> 67
atgagaggat cgcatcacca tcaccatcac ggatccatgg gccacacaga gcctggccct   60

ctcctgatac cattcacttt caactttacc atcaccaacc tgcattatga ggaaaaacatg   120

caacaccctg gttccaggaa gttcaacacc acggagaggg ttctgcaggg tctgctcaag   180

cccttgttca agaacaccag tgttggccct ctgtactctg gctgcagact gaccttgctc   240

agacctgaga agcatgaggc agccactgga gtggacacca tctgtaccca ccgcgttgat   300

cccatcggac ctggactgga cagagagcgg ctatactggg agctgagcca gctgaccaac   360

agcatcacag agctgggacc ctacaccctg gacagggaca gtctctatgt caatggcttc   420

aaccctcgga gctctgtgcc aaccaccagc actcctggga cctccacagt gcacctggca   480

acctctggga ctccatcctc cctgcct   507

<210> 68

<211> 169

<212> PRT

<213> Homo sapiens

<400> 68

Met Arg Gly Ser His His His His His His Gly Ser Met Gly His Thr
1   5   10   15

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
            20   25   30

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
        35   40   45

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
    50   55   60

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
65   70   75   80

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
            85   90   95

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
            100   105   110

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
        115   120   125

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
    130   135   140

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
145   150   155   160

Thr Ser Gly Thr Pro Ser Ser Leu Pro
                165

<210> 69

<211> 909

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(909)

<223> Any "X" = any amino acid

<400> 69

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1   5   10   15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys
        20   25   30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
        35   40   45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
                85   90   95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
        100   105   110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile
    115   120   125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
    130   135   140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
            180   185   190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
        195   200   205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
    210   215   220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
                245   250   255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
        260   265   270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe
        275   280   285

Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His
    290   295   300

His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly
305   310   315   320

Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser
        325   330   335

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr
        340   345   350

Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly
    355   360   365

Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly
    370   375   380

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val
385   390   395   400

Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly
          405   410   415

Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro
        420   425   430

Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe
        435   440   445

Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser
    450   455   460

Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro
465   470   475   480

Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu
        485   490   495

Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala
        500   505   510

Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu
        515   520   525

Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu
    530   535   540

Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
545   550   555   560

His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val
        565   570   575

His Leu Glu Thr Ser Gly Pro Ala Ser Leu Pro Gly His Thr Ala
        580   585   590

Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn

```
            595                    600                    605
Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn
    610                 615                 620

Thr Met Glu Arg Val Leu Gln Gly Cys Leu Val Pro Cys Ser Arg Asn
625                 630                 635                 640

Thr Asn Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
                645                 650                 655

Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa
            660                 665                 670

Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp
        675                 680                 685

Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Thr
    690                 695                 700

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser
705                 710                 715                 720

Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr
                725                 730                 735

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Val Pro Leu Leu
                740                 745                 750

Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu
        755                 760                 765

Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
    770                 775                 780

Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro
785                 790                 795                 800

Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly
                805                 810                 815

Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln
        820                 825                 830

Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val
        835                 840                 845

Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser
    850                 855                 860

Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser
865                 870                 875                 880

Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser
                885                 890                 895

Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile
            900                 905
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<210> 70

<211> 525

<212> PRT

<213> Homo sapiens

<400> 70

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Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu
1               5                   10                  15

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala
                20                  25                  30

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
            35                  40                  45

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
        50                  55                  60

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu
65                  70                  75                  80

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
                85                  90                  95

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
            100                 105                 110

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu
        115                 120                 125

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro
        130                 135                 140

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu
145                 150                 155                 160

Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys
                165                 170                 175

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val
            180                 185                 190

Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp
        195                 200                 205

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr
        210                 215                 220

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly
225                 230                 235                 240

Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser
                245                 250                 255
```

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Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His
        260             265             270

Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile
    275             280             285

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys
    290             295             300

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe
305             310             315             320

Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu
            325             330             335

Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys
        340             345             350

Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu
        355             360             365

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro
    370             375             380

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp
385             390             395             400

Ser Pro Ile Pro Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu
            405             410             415

Gly Thr Ser Gly Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly
        420             425             430

Pro Leu Leu Ile Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln
    435             440             445

Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met
    450             455             460

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser
465             470             475             480

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
            485             490             495

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
        500             505             510

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr
        515             520             525
```

<210> 71

<211> 594

<212> PRT

<213> Homo sapiens

<400> 71

```
Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1               5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20                  25                  30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro
        35                  40                  45

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
                85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu
            100                 105                 110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp
    130                 135                 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
            165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala
            180                 185                 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu
        195                 200                 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210                 215                 220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Pro Ser
                245                 250                 255

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser
            260                 265                 270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr
        275                 280                 285
```

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg
    290   295   300

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
305   310   315   320

Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
         325   330   335

Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly
       340   345   350

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu
       355   360   365

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile
    370   375   380

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn
385   390   395   400

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr
         405   410   415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly
       420   425   430

His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr
       435   440   445

Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg
    450   455   460

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu
465   470   475   480

Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
         485   490   495

Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile
       500   505   510

Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln
       515   520   525

Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly
    530   535   540

Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His
545   550   555   560

Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp
         565   570   575

Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly
       580   585   590

Pro Leu

<210> 72

<211> 424

<212> PRT

<213> Homo sapiens

<400> 72

```
Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1               5                   10                  15

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His
            20                  25                  30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
        35                  40                  45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
    50                  55                  60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser
65                  70                  75                  80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr
            85                  90                  95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu
            100                 105                 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu
        115                 120                 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg
    130                 135                 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly
145                 150                 155                 160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp
            165                 170                 175

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro
            180                 185                 190

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln
        195                 200                 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp
    210                 215                 220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr
225                 230                 235                 240
```

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro
                245   250   255

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe
            260   265   270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His
        275   280   285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
    290   295   300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser
305   310   315   320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr
                325   330   335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly
            340   345   350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser
        355   360   365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val
    370   375   380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
385   390   395   400

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro
                405   410   415

Gly His Thr Ala Pro Val Pro Leu
                420

<210> 73

<211> 286

<212> PRT

<213> Homo sapiens

<400> 73

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
        35   40   45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
    50   55   60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro
                    85   90   95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
              100   105   110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val
         115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
         130   135   140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala
              180   185   190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn
         195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr
         210   215   220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
              245   250   255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
              260   265   270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe
         275   280   285

<210> 74

<211> 286

<212> PRT

<213> Homo sapiens

<400> 74

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys

```
              20                      25                      30
Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro
         35                      40                      45
Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
     50                      55                      60
Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                      70                      75                      80
Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro
                 85                      90                      95
Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
             100                     105                     110
Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val
             115                     120                     125
Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
     130                     135                     140
Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu
145                     150                     155                     160
Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                 165                     170                     175
Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala
             180                     185                     190
Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
             195                     200                     205
Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
     210                     215                     220
His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu
225                     230                     235                     240
Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
                 245                     250                     255
Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
             260                     265                     270
Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
         275                     280                     285

<210>  75

<211>  286

<212>  PRT

<213>  Homo sapiens
```

<400> 75

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
            20   25   30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
            35   40   45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
        50   55   60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65   70   75   80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr
                85   90   95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
            100   105   110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile
        115   120   125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
    130   135   140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu
                165   170   175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala
            180   185   190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg
        195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr
    210   215   220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225   230   235   240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
                245   250   255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
        260   265   270

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe
        275   280   285

<210> 76

<211> 286

<212> PRT

<213> Homo sapiens

<400> 76

```
Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser
1               5                   10                  15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu
                20                  25                  30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro
        35                  40                  45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
    50                  55                  60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu
                85                  90                  95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
            100                 105                 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn
    130                 135                 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Asn Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu
                165                 170                 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
            180                 185                 190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser
        195                 200                 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr
    210                 215                 220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu
225                 230                 235                 240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr
                245                 250                 255
```

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
          260   265   270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe
          275   280   285

<210> 77

<211> 288

<212> PRT

<213> Homo sapiens

<400> 77

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser
1   5   10   15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
          20   25   30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro
          35   40   45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu
          50   55   60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp
65   70   75   80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
                    85   90   95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
          100   105   110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile
          115   120   125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn
          130   135   140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145   150   155   160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu
                    165   170   175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala
                    180   185   190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser
          195   200   205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr

```
        210                  215                  220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
225                  230                  235                  240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
                245                  250                  255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
                260                  265                  270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe
            275                  280                  285
```

<210> 78

<211> 597

<212> PRT

<213> Homo sapiens

<400> 78

```
Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg
1                   5                   10                  15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
                20                  25                  30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
            35                  40                  45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu
        50                  55                  60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65                  70                  75                  80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro
                85                  90                  95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
            100                 105                 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile
        115                 120                 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn
    130                 135                 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
145                 150                 155                 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
                165                 170                 175
```

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala
        180   185   190

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly
        195   200   205

Pro Gly Leu Asp Arg Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn
    210   215   220

Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
225   230   235   240

Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro
                245   250   255

Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu
            260   265   270

Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn
        275   280   285

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly
    290   295   300

Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys
305   310   315   320

Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
                325   330   335

Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp
            340   345   350

Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg
            355   360   365

Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu
    370   375   380

Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe
385   390   395   400

Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr
                405   410   415

Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile
            420   425   430

Val Pro Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr
        435   440   445

Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe
    450   455   460

Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys
465   470   475   480

Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu
                485   490   495

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr
            500   505   510

His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr
        515   520   525

Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr
    530   535   540

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
545   550   555   560

Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly
            565   570   575

Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro
            580   585   590

Leu Leu Ile Pro Phe
        595

<210> 79

<211> 420

<212> PRT

<213> Homo sapiens

<400> 79

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys
1   5   10   15

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn
            20   25   30

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser
        35   40   45

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg
    50   55   60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr
65   70   75   80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr
            85   90   95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro
            100   105   110

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met
        115   120   125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln

```
          130                   135                   140

Gly Leu Leu Thr Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr
145                 150                 155                 160

Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala
                165                 170                 175

Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro
            180                 185                 190

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn
        195                 200                 205

Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr
    210                 215                 220

Val Asn Gly Phe Thr His Arg Ser Leu Gly Leu Thr Thr Ser Thr Pro
225                 230                 235                 240

Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val
                245                 250                 255

Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn
            260                 265                 270

Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly
        275                 280                 285

Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Arg
    290                 295                 300

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
305                 310                 315                 320

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp
                325                 330                 335

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg
            340                 345                 350

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu
        355                 360                 365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
    370                 375                 380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr
385                 390                 395                 400

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser
                405                 410                 415

Ala Ala Ser Pro
            420

<210>  80
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<211> 479

<212> PRT

<213> Homo sapiens

<400> 80

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu
1   5   10   15

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr
            20   25   30

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val
        35   40   45

Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile
    50   55   60

Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile
65   70   75   80

Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys
                85   90   95

Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe
            100   105   110

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu
        115   120   125

Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys
    130   135   140

Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu
145   150   155   160

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro
                165   170   175

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg
            180   185   190

Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu
        195   200   205

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val
    210   215   220

Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys
225   230   235   240

Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr
                245   250   255

Glu Arg Val Leu Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser

```
                 260                    265                    270

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu
         275                    280                    285

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu
     290                    295                    300

Asp Pro Lys Ser Leu Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu
305                    310                    315                    320

Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
                 325                    330                    335

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro
             340                    345                    350

Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
             355                    360                    365

Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val
     370                    375                    380

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
385                    390                    395                    400

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu
                 405                    410                    415

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
             420                    425                    430

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala
         435                    440                    445

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser
     450                    455                    460

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu
465                    470                    475
```

<210> 81

<211> 5465

<212> DNA

<213> Homo sapiens

<400> 81

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acagaggtac cataagacca gtcaaaggcc ctcagacatc cacttcgcct gccagtccta    180

aaggactaca cacaggaggg acaaaaagaa tggagaccac caccacagct ttgaagacca    240
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ccaccacagc tttgaagacc acttccagag ccaccttgac caccagtgtc tatactccca    300

ctttgggaac actgactccc ctcaatgcat caaggcaaat ggccagcaca atcctcacag    360

aaatgatgat cacaacccca tatgttttcc ctgatgttca agaaacgaca tcctcattgg    420

ctaccagcct gggagcagaa accagcacag ctcttcccag gacaacccca tctgttctca    480

atagagaatc agagaccaca gcctcactgg tctctcgttc tggggcagag agaagtccgg    540

ttattcaaac tctagatgtt tcttctagtg agccagatac aacagcttca tgggttatcc    600

atcctgcaga gaccatccca actgtttcca agacaacccc caattttttc cacagtgaat    660

tagacactgt atcttccaca gccaccagtc atgggcaga cgtcagctca gccattccaa     720

caaatatctc acctagtgaa ctagatgcac tgacccccact ggtcactatt tcggggacag   780

atactagtac aacattccca acactgacta agtccccaca tgaaacagag acaagaacca    840

catggctcac tcatcctgca gagaccagct caactattcc cagaacaatc cccaattttt    900

ctcatcatga atcagatgcc acaccttcaa tagccaccag tcctggggca gaaaccagtt    960

cagctattcc aattatgact gtctcacctg gtgcagaaga tctggtgacc tcacaggtca   1020

ctagttctgg gacagacaga aatatgacta ttccaacttt gactctttct cctggtgaac   1080

caaagacgat agcctcatta gtcacccatc ctgaagcaca gacaagttcg gccattccaa   1140

cttcaactat ctcgcctgct gtatcacggt tggtgacctc aatggtcacc agtttggcgg   1200

caaagacaag tacaactaat cgagctctga caaactcccc tggtgaacca gctacaacag   1260

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gggcagtgac tagtacaact attccaattc tgacttttc tcttggtgaa ccagagacca    1680

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ctgaggtacc aggaatggtg acctctctgg ttgctagttc tagggcagta accagtacaa   1800

ctcttccaac tctgactctt tctcctggtg aaccagagac cacaccttca atggccacca   1860

gtcatgggc agaagccagc tcaactgttc caactgtttc acctgaggta ccaggagtgg   1920

tgacctctct ggtcactagt tctagtggag taaacagtac aagtattcca actctgattc   1980
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tttctcctgg tgaactagaa accacacctt caatggccac cagtcatggg gcagaagcca      2040

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tcactagttc cagggcagtg accagtacaa ctattccaat tctaactctt tcttctagtg      2160

agccagagac cacaccttca atggccacca gtcatgggt agaagccagc tcagctgttc       2220

taactgtttc acctgaggta ccaggaatgg tgacctctct ggtcactagt tctagagcag      2280

taaccagtac aactattcca actctgacta tttcttctga tgaaccagag accacaactt      2340

cattggtcac ccattctgag gcaaagatga tttcagccat tccaacttta gctgtctccc      2400

ctactgtaca agggctggtg acttcactgg tcactagttc tgggtcagag accagtgcgt      2460

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ctgggacaga agcaagttct gttgttccaa ctttgactgt ctccactggt gagccgttta      2580

caaatatctc attggtcacc catcctgcag agagtagctc aactcttccc aggacaacct      2640

caaggttttc ccacagtgaa ttagacacta tgccttctac agtcaccagt cctgaggcag      2700

aatccagctc agccatttca actactattt cacctggtat accaggtgtg ctgacatcac      2760

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ccaggacaac ccctaattat tctcatagtg aaccagacac cacaccatca atagccacca      2940

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tgtcagatct ggtgacctca ctggtcccta gttctgggac agacaccagt acaaccttcc      3480

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ccatcccacc cagtatacca ggggtagtga cctcacaggt cactagttct gcaacagaca      3720

ctagtacagc tattccaact ttgactcctt ctcctggtga accagagacc acagcctcat      3780
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ccagaacaac ctccagtttt tcccatagta gtccagatgc cacacctgta atggccacca   3960

gtcctaggac agaagccagt tcagctgtac tgacaacaat ctcacctggt gcaccagaga   4020

tggtgacttc acagatcact agttctgggg cagcaaccag tacaactgtt ccaactttga   4080

ctcattctcc tggtatgcca gagaccacag ccttattgag cacccatccc agaacaggga   4140

caagtaaaac atttcctgct tcaactgtgt ttcctcaagt atcagagacc acagcctcac   4200

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cctcaccatc tgtaacttca gttggacccc cagaattttc caggactgtc acaggcacca   4620

ctatgacctt gataccatca gagatgccaa caccacctaa aaccagtcat ggagaaggag   4680

tgagtccaac cactatcttg agaactacaa tggttgaagc cactaattta gctaccacag   4740

gttccagtcc cactgtggcc aagacaacaa ccaccttcaa tacactggct ggaagcctct   4800

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caagttataa ccatcggtcc tggatctcca ccaccagcag ttataaccgt cggtactgga   4920

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cagagagaga actgcagggt ctgctcaaac ccttgttcag gaatagcagt ctggaatacc   5160

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accggaacag tctctatgtc aatggtttca cccatcgaag ctctatgccc accaccagca   5400

ctcctgggac ctccacagtg gatgtgggaa cctcagggac tccatcctcc agcccagcc    5460

ccacg                                                               5465
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<210> 82

<211> 1821

<212> PRT

<213> Homo sapiens

<400> 82

Glu Ser Val Leu Glu Gly Thr Val Thr Ser Ala Tyr Gln Val Pro Ser
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Leu Ser Thr Arg Leu Thr Arg Thr Asp Gly Ile Met Glu His Ile Thr
            20   25   30

Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr Ile Arg Pro Val Lys
            35   40   45

Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro Lys Gly Leu His Thr
        50   55   60

Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Ala Leu Lys Thr Thr
65   70   75   80

Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr Leu Thr Thr Ser Val
                85   90   95

Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu Asn Ala Ser Arg Gln
                100   105   110

Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile Thr Thr Pro Tyr Val
        115   120   125

Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu Ala Thr Ser Leu Gly
        130   135   140

Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr Pro Ser Val Leu Asn
145   150   155   160

Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser Arg Ser Gly Ala Glu
                165   170   175

Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser Ser Ser Glu Pro Asp
                180   185   190

Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu Thr Ile Pro Thr Val
        195   200   205

Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu Leu Asp Thr Val Ser
        210   215   220

Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser Ser Ala Ile Pro Thr
225   230   235   240

Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr Pro Leu Val Thr Ile

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                    245                  250                    255
Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr Leu Thr Lys Ser Pro
        260             265                 270
His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr His Pro Ala Glu Thr
        275             280             285
Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe Ser His His Glu Ser
    290             295             300
Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Thr Ser Ser
305             310             315                 320
Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala Glu Asp Leu Val Thr
            325             330                 335
Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn Met Thr Ile Pro Thr
        340             345             350
Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile Ala Ser Leu Val Thr
        355             360             365
His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro Thr Ser Thr Ile Ser
    370             375             380
Pro Ala Val Ser Arg Leu Val Thr Ser Met Val Thr Ser Leu Ala Ala
385             390             395                 400
Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro
            405             410             415
Ala Thr Thr Val Ser Leu Val Thr His Pro Ala Gln Thr Ser Pro Thr
            420             425             430
Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser Lys Ser Asp Thr Thr
        435             440             445
Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser Ser Ser Ala Val Pro
    450             455             460
Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val Val Thr Pro Leu Val
465             470             475                 480
Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu
            485             490             495
Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly
        500             505             510
Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr Val Ser Pro Gly Val
        515             520             525
Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser
    530             535             540
Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr
545             550             555                 560
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Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala Gly Ser Ala Val Pro
            565   570   575

Thr Val Leu Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Ala Ser
            580   585   590

Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro
        595   600   605

Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu
    610   615   620

Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro Gly Val Val
625   630   635   640

Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn Ser Thr Ser Ile Pro
        645   650   655

Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr Thr Pro Ser Met Ala
        660   665   670

Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val Pro Thr Pro Thr Val
    675   680   685

Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg
    690   695   700

Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Ser Ser Glu
705   710   715   720

Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Val Glu Ala Ser
            725   730   735

Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro Gly Met Val Thr Ser
        740   745   750

Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Thr Leu
    755   760   765

Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr Ser Leu Val Thr His
770   775   780

Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr Leu Ala Val Ser Pro
785   790   795   800

Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr Ser Ser Gly Ser Glu
            805   810   815

Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser Ser Gln Pro Glu Thr
        820   825   830

Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu Ala Ser Ser Val Val
        835   840   845

Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu
    850   855   860

Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser
865   870   875   880

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Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro Ser Thr Val Thr Ser
            885                     890                 895

Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly
        900                     905                 910

Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser Ser Gly Arg Asp Ile
        915                 920                 925

Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro His Glu Ser Glu Ala
    930                 935                 940

Thr Ala Ser Trp Val Thr His Pro Ala Val Thr Ser Thr Thr Val Pro
945                 950                     955                 960

Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro Asp Thr Thr Pro Ser
                965                 970                 975

Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile
            980                 985                 990

Thr Val Ser Pro Asp Val Pro Asp Met Val Thr Ser Gln Val Thr Ser
        995                     1000                1005

Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr Leu Thr Leu Ser
    1010                1015                1020

Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr Tyr Ser Glu
    1025                1030                1035

Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val Ser Pro Gly
    1040                1045                1050

Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser Gly Thr Asp
    1055                1060                1065

Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro Tyr Glu Pro
    1070                1075                1080

Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu Thr Asn Thr
    1085                1090                1095

Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser Lys Ser Asp
    1100                1105                1110

Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro Glu Ala Ser
    1115                1120                1125

Ser Ala Val Ser Thr Thr Thr Ile Ser Pro Asp Met Ser Asp Leu
    1130                1135                1140

Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr Ser Thr Thr
    1145                1150                1155

Phe Pro Thr Leu Ser Glu Thr Pro Tyr Glu Pro Glu Thr Thr Ala
    1160                1165                1170

Thr Trp Leu Thr His Pro Ala Glu Thr Ser Thr Thr Val Ser Gly
```

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            1175                    1180                    1185

Thr Ile  Pro Asn Phe Ser His  Arg Gly Ser Asp Thr  Ala Pro Ser
    1190                    1195                    1200

Met Val  Thr Ser Pro Gly Val  Asp Thr Arg Ser Gly  Val Pro Thr
    1205                    1210                    1215

Thr Thr  Ile Pro Pro Ser Ile  Pro Gly Val Val Thr  Ser Gln Val
    1220                    1225                    1230

Thr Ser  Ser Ala Thr Asp Thr  Ser Thr Ala Ile Pro  Thr Leu Thr
    1235                    1240                    1245

Pro Ser  Pro Gly Glu Pro Glu  Thr Thr Ala Ser Ser  Ala Thr His
    1250                    1255                    1260

Pro Gly  Thr Gln Thr Gly Phe  Thr Val Pro Ile Arg  Thr Val Pro
    1265                    1270                    1275

Ser Ser  Glu Pro Asp Thr Met  Ala Ser Trp Val Thr  His Pro Pro
    1280                    1285                    1290

Gln Thr  Ser Thr Pro Val Ser  Arg Thr Thr Ser Ser  Phe Ser His
    1295                    1300                    1305

Ser Ser  Pro Asp Ala Thr Pro  Val Met Ala Thr Ser  Pro Arg Thr
    1310                    1315                    1320

Glu Ala  Ser Ser Ala Val Leu  Thr Thr Ile Ser Pro  Gly Ala Pro
    1325                    1330                    1335

Glu Met  Val Thr Ser Gln Ile  Thr Ser Ser Gly Ala  Ala Thr Ser
    1340                    1345                    1350

Thr Thr  Val Pro Thr Leu Thr  His Ser Pro Gly Met  Pro Glu Thr
    1355                    1360                    1365

Thr Ala  Leu Leu Ser Thr His  Pro Arg Thr Glu Thr  Ser Lys Thr
    1370                    1375                    1380

Phe Pro  Ala Ser Thr Val Phe  Pro Gln Val Ser Glu  Thr Thr Ala
    1385                    1390                    1395

Ser Leu  Thr Ile Arg Pro Gly  Ala Glu Thr Ser Thr  Ala Leu Pro
    1400                    1405                    1410

Thr Gln  Thr Thr Ser Ser Leu  Phe Thr Leu Leu Val  Thr Gly Thr
    1415                    1420                    1425

Ser Arg  Val Asp Leu Ser Pro  Thr Ala Ser Pro Gly  Val Ser Ala
    1430                    1435                    1440

Lys Thr  Ala Pro Leu Ser Thr  His Pro Gly Thr Glu  Thr Ser Thr
    1445                    1450                    1455

Met Ile  Pro Thr Ser Thr Leu  Ser Leu Gly Leu Leu  Glu Thr Thr
    1460                    1465                    1470
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Gly Leu  Leu Ala Thr Ser Ser  Ser Ala Glu Thr Ser  Thr Ser Thr
    1475                  1480                  1485

Leu Thr  Leu Thr Val Ser Pro  Ala Val Ser Gly Leu  Ser Ser Ala
    1490                  1495                  1500

Ser Ile  Thr Thr Asp Lys Pro  Gln Thr Val Thr Ser  Trp Asn Thr
    1505                  1510                  1515

Glu Thr  Ser Pro Ser Val Thr  Ser Val Gly Pro Pro  Glu Phe Ser
    1520                  1525                  1530

Arg Thr  Val Thr Gly Thr Thr  Met Thr Leu Ile Pro  Ser Glu Met
    1535                  1540                  1545

Pro Thr  Pro Pro Lys Thr Ser  His Gly Glu Gly Val  Ser Pro Thr
    1550                  1555                  1560

Thr Ile  Leu Arg Thr Thr Met  Val Glu Ala Thr Asn  Leu Ala Thr
    1565                  1570                  1575

Thr Gly  Ser Ser Pro Thr Val  Ala Lys Thr Thr Thr  Thr Phe Asn
    1580                  1585                  1590

Thr Leu  Ala Gly Ser Leu Phe  Thr Pro Leu Thr Thr  Pro Gly Met
    1595                  1600                  1605

Ser Thr  Leu Ala Ser Glu Ser  Val Thr Ser Arg Thr  Ser Tyr Asn
    1610                  1615                  1620

His Arg  Ser Trp Ile Ser Thr  Thr Ser Ser Tyr Asn  Arg Arg Tyr
    1625                  1630                  1635

Trp Thr  Pro Ala Thr Ser Thr  Pro Val Thr Ser Thr  Phe Ser Pro
    1640                  1645                  1650

Gly Ile  Ser Thr Ser Ser Ile  Pro Ser Ser Thr Ala  Ala Thr Val
    1655                  1660                  1665

Pro Phe  Met Val Pro Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu
    1670                  1675                  1680

Gln Tyr  Glu Glu Asp Met Arg  His Pro Gly Ser Arg  Lys Phe Asn
    1685                  1690                  1695

Ala Thr  Glu Arg Glu Leu Gln  Gly Leu Leu Lys Pro  Leu Phe Arg
    1700                  1705                  1710

Asn Ser  Ser Leu Glu Tyr Leu  Tyr Ser Gly Cys Arg  Leu Ala Ser
    1715                  1720                  1725

Leu Arg  Pro Glu Lys Asp Ser  Ser Ala Met Ala Val  Asp Ala Ile
    1730                  1735                  1740

Cys Thr  His Arg Pro Asp Pro  Glu Asp Leu Gly Leu  Asp Arg Glu
    1745                  1750                  1755

Arg Leu  Tyr Trp Glu Leu Ser  Asn Leu Thr Asn Gly  Ile Gln Glu
    1760                  1765                  1770
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Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    1775   1780   1785

Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr
    1790   1795   1800

Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro
    1805   1810   1815

Ser Pro Thr
    1820

<210> 83

<211> 468

<212> DNA

<213> Homo sapiens

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ggtctgctca aaccccttgtt caggaatagc agtctggaat acctctattc aggctgcaga   180

ctagcctcac tcaggccaga gaaggatagc tcagccatgg cagtggatgc catctgcata   240

catcgccctg accctgaaga cctcggactg gacagagagc gactgtactg ggagctgagc   300

aatctgacaa atggcatcca ggagctgggc ccctacaccc tggaccggaa cagtctctat   360

gtcaatggtt tcacccatcg aagctctatg cccaccacca gcactcctgg gacctccaca   420

gtggatgtgg gaacctcagg gactccatcc tccagcccca gccccacg   468

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<211> 474

<212> DNA

<213> Homo sapiens

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gaggaggaca tgcgtcgcac tggctccagg aagttcaaca ccatggagag tgtcctgcag   120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga   180

ttgaccttgc tcaggcccaa gaaagatggg gcagccactg gagtggatgc catctgcacc   240

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caccgccttg accccaaaag ccctggactc aacagggagc agctgtactg ggagctaagc    300

aaactgacca atgacattga agagctgggc ccctacaccc tggacaggaa cagtctctat    360

gtcaatggtt tcacccatca gagctctgtg tccaccacca gcactcctgg gacctccaca    420

gtggatctca gaacctcagg gactccatcc tccctctcca gccccacaat tatg          474
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<210> 85

<211> 468

<212> DNA

<213> Homo sapiens

<400> 85

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ggtctgcttg gtcccatatt caagaacacc agtgttggcc tctgtactc tggctgcaga    180

ctgacctctc tcaggtctga aaggatgga gcagccactg gagtggatgc catctgcatc    240

catcatcttg accccaaaag ccctggactc aacagagagc ggctgtactg ggagctgagc    300

caactgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat    360

gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca    420

gtggaccttg aacctcagg gactccattc tccctcccaa gccccgca                    468
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<210> 86

<211> 465

<212> DNA

<213> Homo sapiens

<400> 86

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actgctggcc ctctcctggt gctgttcacc ctcaacttca ccatcaccaa cctgaagtat     60

gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccactgagag ggtcctgcag    120

actctgcttg gtcctatgtt caagaacacc agtgttggcc ttctgtactc tggctgcaga    180

ctgaccttgc tcaggtccga aaggatgga gcagccactg gagtggatgc catctgcacc    240

caccgtcttg accccaaaag ccctggactg gacagagagc agctatactg ggagctgagc    300
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```
cagctgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat      360

gtcaatggtt tcaccattg gatccctgtg cccaccagca gcactcctgg gacctccaca       420

gtggaccttg ggtcagggac tccatcctcc ctccccagcc ccaca                     465
```

```
<210>  87
<211>  468
<212>  DNA
<213>  Homo sapiens
```

```
<400>  87
gctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac      60

gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag      120

ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga      180

ctgaccttgc tcaggtccga aaggatgga gcagccactg gagtggatgc catctgcacc       240

caccgtcttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc      300

cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat      360

gtcaatggtt tcacccatca gacctctgcg cccaacacca gcactcctgg gacctccaca      420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca                  468
```

```
<210>  88
<211>  468
<212>  DNA
<213>  Homo sapiens
```

```
<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide
```

```
<400>  88
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag      120
```

```
ggtctgctnn nncccntntt caagaacacc agtgttggcc ctctgtactc tggctgcaga    180
ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc    240
caccgtcttg accccaaaag ccctggagtg gacaggggagc agctatactg ggagctgagc   300
cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat    360
gtcaatggtt tcacccatca gacctctgcg cccaacacca gcactcctgg gacctccaca    420
gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca                 468
```

```
<210>  89
<211>  468
<212>  DNA
<213>  Homo sapiens
```

```
<400>  89
tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac    60
gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag   120
ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga   180
ctgaccttgc tcaggcctga gaagaatggg gcagccactg gaatggatgc catctgcagc   240
caccgtcttg accccaaaag ccctggactc aacagagagc agctgtactg ggagctgagc   300
cagctgaccc atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat    360
gtcaatggtt tcacccatcg gagctctgtg gcccccacca gcactcctgg gacctccaca    420
gtggaccttg ggacctcagg gactccatcc tccctcccca gccccaca                 468
```

```
<210>  90
<211>  468
<212>  DNA
<213>  Homo sapiens
```

```
<400>  90
acagctgttc ctctcctggt gccgttcacc ctcaacttta ccatcaccaa tctgcagtat    60
ggggaggaca tgcgtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag   120
ggtctgcttg gtcccttgtt caagaactcc agtgtcggcc ctctgtactc tggctgcaga   180
```

```
ctgatctctc tcaggtctga gaaggatggg gcagccactg gagtggatgc catctgcacc      240

caccacctta accctcaaag ccctggactg gacagggagc agctgtactg gcagctgagc      300

cagatgacca atggcatcaa agagctgggc ccctacaccc tggaccggaa cagtctctac      360

gtcaatggtt tcacccatcg gagctctggg ctcaccacca gcactccttg gacttccaca      420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca                  468
```

<210> 91

<211> 468

<212> DNA

<213> Homo sapiens

<400> 91
```
actgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtat       60

gaggaggaca tgcatcgccc tggatctagg aagttcaaca ccacagagag ggtcctgcag      120

ggtctgctta gtcccatttt caagaactcc agtgttggcc ctctgtactc tggctgcaga      180

ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc      240

taccaccota atcccaaaag acctggactg gacagagagc agctgtactg ggagctaagc      300

cagctgaccc acaacatcac tgagctgggc ccctacagcc tggcagggga cagtctctat      360

gtcaatggtt tcacccatca gaactctgtg cccaccacca gtactcctgg gacctccaca      420

gtgtactggg caaccactgg gactccatcc tccttccccg gccacaca                  468
```

<210> 92

<211> 468

<212> DNA

<213> Homo sapiens

<400> 92
```
gagcctggcc ctctcctgat accattcact ttcaactttta ccatcaccaa cctgcattat       60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag      120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga      180

ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc      240

taccaccota atcccaaaag acctgggctg gacagagagc agctgtactg ggagctaagc      300
```

```
cagctgaccc acaacatcac tgagctgggc ccctacagcc tggacaggga cagtctctat      360

gtcaatggtt tcacccatca gaactctgtg cccaccacca gtactcctgg gacctccaca      420

gtgtactggg caaccactgg gactccatcc tccttccccg gccacaca                   468
```

<210> 93

<211> 468

<212> DNA

<213> Homo sapiens

<400> 93
```
gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcattat      60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag      120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga      180

ctgaccttgc tcagacctga gaagcatgag gcagccactg gagtggacac catctgtacc      240

caccgcgttg atcccatcgg acctggactg gacagggagc ggctatactg ggagctgagc      300

cagctgacca acagcattac cgaactggga ccctacaccc tggacaggga cagtctctat      360

gtcaatggct tcaaccctcg gagctctgtg ccaaccacca gcactcctgg gacctccaca      420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca                   468
```

<210> 94

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 94
```
gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat      60
```

```
gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag      120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga      180

ctgaccttgc tcagacctga gaagcatgag gcagccactg gagtggacac catctgtacc      240

caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc      300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat      360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca      420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                   468
```

<210> 95

<211> 468

<212> DNA

<213> Homo sapiens


```
<400> 95
tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac       60

gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag      120

ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga      180

ctgaccttgc tcaggcctga gaagaatggg gcagccactg gaatggatgc catctgcagc      240

caccgtcttg accccaaaag ccctggactc gacagagagc agctgtactg ggagctgagc      300

cagctgaccc atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat      360

gtcaatggtt tcacccatcg gagctctgtg gcccccacca gcactcctgg gacctccaca      420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccccaca                   468
```

<210> 96

<211> 468

<212> DNA

<213> Homo sapiens


```
<400> 96
acagctgttc ctctcctggt gccgttcacc ctcaacttta ccatcaccaa tctgcagtat       60

ggggaggaca tgcgtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag      120

ggtctgcttg gtcccttgtt caagaactcc agtgtcggcc ctctgtactc tggctgcaga      180
```

```
ctgatctctc tcaggtctga gaaggatggg gcagccactg gagtggatgc catctgcacc    240

caccacctta accctcaaag ccctggactg gacagggagc agctgtactg gcagctgagc    300

cagatgacca atggcatcaa agagctgggc ccctacaccg tggaccggaa cagtctctac    360

gtcaatggtt tcacccatcg gagctctggg ctcaccacca gcactccttg gacttccaca    420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca                 468
```

<210>   97
<211>   468
<212>   DNA
<213>   Homo sapiens

<400>   97
```
actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat     60

gaggaggaca tgcatcgcc tggatctagg aagttcaacg ccacagagag ggtcctgcag    120

ggtctgctta gtcccatatt caagaactcc agtgttggcc ctctgtactc tggctgcaga    180

ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc    240

taccaccta atcccaaaag acctggactg gacagagagc agctgtactg ggagctaagc    300

cagctgaccc acaacatcac tgagctgggc ccctacagcc tggacaggga cagtctctat    360

gtcaatggtt tcacccatca gagctctatg acgaccacca gaactcctga tacctccaca    420

atgcacctgg caacctcgag aactccagcc tccctgtctg gacctacg                 468
```

<210>   98
<211>   474
<212>   DNA
<213>   Homo sapiens

<400>   98
```
accgccagcc ctctcctggt gctattcaca atcaactgca ccatcaccaa cctgcagtac     60

gaggaggaca tgcgtcgcac tggctccagg aagttcaaca ccatggagag tgtcctgcag    120

ggtctgctca agcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga    180

ttgaccttgc tcaggcccaa gaaagatggg gcagccactg gagtggatgc catctgcacc    240
```

```
caccgccttg accccaaaag ccctggactc aacagggagc agctgtactg ggagctaagc    300

aaaactgacca atgacattga agagctgggc ccctacaccc tggacaggaa cagtctctat    360

gtcaatggtt tcacccatca gagctctgtg tccaccacca gcactcctgg gacctccaca    420

gtggatctca gaacctcagg gactccatcc tccctctcca gccccacaat tatg          474
```

<210> 99

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide


```
<400> 99
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan    60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggtcctacag    120

ggtctgctca ggcccttgtt caagaacacc agtgtcagct ctctgtactc tggttgcaga    180

ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgcctgcacc    240

taccgccctg atcccaaaag ccctggactg gacagagagc aactatactg ggagctgagc    300

cagctaaccc acagcatcac tgagctggga ccctacaccc tggacagggt cagtctctat    360

gtcaatggct tcaaccctcg gagctctgtg ccaaccacca gcactcctgg gacctccaca    420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca              468
```

<210> 100

<211> 468

<212> DNA

<213> Homo sapiens


```
<400> 100
gccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat    60
```

```
gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag    120

ggtctgctca agcccttgtt caagagcacc agcgttggcc ctctgtactc tggctgcaga    180

ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc    240

ctccgccttg atcccactgg tcctggactg gacagagagc ggctatactg ggagctgagc    300

cagctgacca acagcgttac agagctgggc ccctacaccc tggacaggga cagtctctat    360

gtcaatggct tcacccagcg gagctctgtg ccaaccacca gtattcctgg gacctctgca    420

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca                 468
```

```
<210>   101
<211>   468
<212>   DNA
<213>   Homo sapiens
```

```
<400>   101
gcccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat     60

gaggtggaca tgcgtcaccc tggttccagg aagttcaaca ccacggagag agtcctgcag    120

ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga    180

ctgaccttgc tcaggcctga aaaacgtggg gcagccaccg gcgtggacac catctgcact    240

caccgccttg accctctaaa ccctggactg gacagagagc agctatactg ggagctgagc    300

aaactgaccc gtggcatcat cgagctgggc ccctacctcc tggacagagg cagtctctat    360

gtcaatggtt tcacccatcg gaactttgtg cccatcacca gcactcctgg gacctccaca    420

gtacacctag gaacctctga aactccatcc tccctaccta gacccata                 468
```

```
<210>   102
<211>   468
<212>   DNA
<213>   Homo sapiens
```

```
<400>   102
gtgcctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cttgcagtat     60

gaggaggcca tgcgacaccc tggctccagg aagttcaata ccacggagag ggtcctacag    120
```

```
ggtctgctca ggcccttgtt caagaatacc agtatcggcc ctctgtactc cagctgcaga     180

ctgaccttgc tcaggccaga gaaggacaag gcagccacca gagtggatgc catctgtacc     240

caccaccctg accctcaaag ccctggactg aacagagagc agctgtactg ggagctgagc     300

cagctgaccc acggcatcac tgagctgggc ccctacaccc tggacaggga cagtctctat     360

gtcgatggtt tcactcattg gagccccata ccgaccacca gcactcctgg gacctccata     420

gtgaacctgg gaacctctgg gatcccacct tccctccctg aaactaca                 468
```

<210>   103

<211>   468

<212>   DNA

<213>   Homo sapiens

<220>

<221>   misc_feature

<222>   (1)..(468)

<223>   All N's = any nucleotide

<400>   103

```
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggtctgtcag     120

ggtctgctca aacccttgtt caggaatagc agtctggaat acctctattc aggctgcaga     180

ctagcctcac tcaggccaga gaaggatagc tcagccatgg cagtgatgc catctgcaca      240

catcgccctg accctgaaga cctcggactg gacagagagc gactgtactg ggagctgagc     300

aatctgacaa atggcatcca ggagctgggc ccctacaccc tggaccggaa cagtctctac     360

gtcaatggtt tcacccatcg gagctctggg ctcaccacca gcactccttg gacttccaca     420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca                 468
```

<210>   104

<211>   468

<212>   DNA

<213>   Homo sapiens

<400> 104

```
actgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtat      60

gaggaggaca tgcatcgccc tggttccagg aggttcaaca ccacggagag ggttctgcag     120

ggtctgctca cgcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga     180

ctgaccttgc tcagacctga gaagcaagag gcagccactg gagtggacac catctgtacc     240

caccgcgttg atcccatcgg acctggactg gacagagagc ggctatactg ggagctgagc     300

cagctgacca acagcatcac agagctggga ccctacaccc tggatAggga cagtctctat     360

gtcaatggct tcaacccttg gagctctgtg ccaaccacca gcactcctgg gacctccaca     420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca               468
```

<210> 105

<211> 468

<212> DNA

<213> Homo sapiens

<400> 105

```
gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccga cctgcattat      60

gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag     120

ggtctgctca agcccttgtt caagagcacc agcgttggcc ctctgtactc tggctgcaga     180

ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc     240

ctccgccttg atcccactgg tcctggactg gacagagagc ggctatactg ggagctgagc     300

cagctgacca acagcgttac agagctgggc ccctacaccc tggacaggga cagtctctat     360

gtcaatggct tcacccatcg gagctctgtg ccaaccacca gtattcctgg gacctctgca     420

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca               468
```

<210> 106

<211> 468

<212> DNA

<213> Homo sapiens

<400> 106

```
gcccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat      60

gaggaggaca tgcgtcaccc tggttccagg aagttcagca ccacggagag agtcctgcag     120

ggtctgctca agcccttgtt caagaacacc agtgtcagct ctctgtactc tggttgcaga     180

ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgtctgcacc     240

catcgtcctg accccaaaag ccctggactg gacagagagc ggctgtactg gaagctgagc     300

cagctgaccc acggcatcac tgagctgggc ccctacaccc tggacaggca cagtctctat     360

gtcaatggtt tcacccatca gagctctatg acgaccacca gaactcctga tacctccaca     420

atgcacctgg caacctcgag aactccagcc tccctgtctg gacctacg                  468
```

<210> 107

<211> 468

<212> DNA

<213> Homo sapiens

<400> 107
```
accgccagcc ctctcctggt gctattcaca attaacttca ccatcactaa cctgcggtat      60

gaggagaaca tgcatcaccc tggctctaga aagtttaaca ccacggagag agtccttcag     120

ggtctgctca ggcctgtgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga     180

ctgaccacgc tcaggcccaa gaaggatggg gcagccacca aagtggatgc catctgcacc     240

taccgccctg atcccaaaag ccctggactg gacagagagc agctatactg ggagctgagc     300

cagctaaccc acagcatcac tgagctgggc ccctacaccc aggacaggca cagtctctat     360

gtcaatggct tcacccatcg gagctctgtg ccaaccacca gtattcctgg gacctctgca     420

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca                  468
```

<210> 108

<211> 468

<212> DNA

<213> Homo sapiens

<400> 108
```
gcccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat      60

gaggaggaca tgcgtcaccc tggttccagg aagttcaaca ccacggagag agtcctgcag     120
```

```
ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga      180
ctgaccttgc tcaggcctga aaaacgtggg gcagccaccg gcgtggacac catctgcact      240
caccgccttg accctctaaa cccaggactg gacagagagc agctatactg ggagctgagc      300
aaaactgaccc gtggcatcat cgagctgggc ccctacctcc tggacagagg cagtctctat      360
gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca      420
gtggaccttg gaacctcagg gactccattc tccctcccaa gccccgca                   468
```

```
<210>  109
<211>  465
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(465)
<223>  All N's = any nucleotide

<400>  109
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60
gnggannaca tgcnncncc nggntccagg aagttcaaca ccacngagag ggtcctgcag       120
actctgcttg gtcctatgtt caagaacacc agtgttggcc ttctgtactc tggctgcaga      180
ctgaccttgc tcaggtccga aaggatgga gcagccactg gagtggatgc catctgcacc       240
caccgtcttg accccaaaag ccctggagtg gacagggagc aactatactg ggagctgagc      300
cagctgacca atggcattaa agaactgggc ccctacaccc tggacaggaa cagtctctat      360
gtcaatgggt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca      420
gtggaccttg ggtcagggac tccatcctcc ctcccagcc ccaca                      465
```

```
<210>  110
<211>  468
<212>  DNA
```

<213> Homo sapiens

<400> 110
actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac   60

gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag   120

agtctgcttg gtcccatgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga   180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc   240

caccgtcttg accccaaaag ccctggagtg gacaggagc agctatactg ggagctgagc   300

cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat   360

gtcaatggtt tcacccatca gacctctgcg cccaacacca gcactcctgg gacctccaca   420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca   468

<210> 111

<211> 465

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(465)

<223> All N's = any nucleotide

<400> 111
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan   60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag   120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga   180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc   240

cacnncnctn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc   300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat   360

gtcaatggtt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca   420

gtggaccttg ggtcagggac tccatcctcc ctcccagcc ccaca   465

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<210>  112
<211>  468
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide

<400>  112
actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac      60
gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag     120
agtctgcttg gtcccatgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga     180
ctgacctcgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc     240
caccgtgttg accccaaaag ccctggagtg gacagggagc agctatactg ggagctgagc     300
cagctgacca atggcatcaa agagctgggt ccctacaccc tggacagaaa cagtctctat     360
gtcaatggtt tcacccatca gacctctgcg cccaacacca gcactcctgg gacctccaca     420
gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                  468
```

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<210>  113
<211>  468
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide
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```
<400>  113
tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac        60
gaggaggaca tgcatcaccc aggctccagg aagttcaaca ccacggagcg ggtcctgcag       120
ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga       180
ctgaccttgc tcaggcctga gaagaatggg gcaaccactg gaatggatgc catctgcacc       240
caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc       300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat       360
gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca       420
gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                    468

<210>  114
<211>  468
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide

<400>  114
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan        60
gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacgngagag ggtctgcag       120
ggtctgctca aaccccttgtt caggaatagc agtctggaat acctctattc aggctgcaga      180
ctagcctcac tcaggccaga gaaggatagc tcagccatgg cagtggatgc catctgcaca      240
catcgccctg accctgaaga cctcggactg gacagagagc gactgtactg ggagctgagc       300
aatctgacaa atggcatcca ggagctgggc ccctacaccc tggaccggaa cagtctctat       360
gtcaatggtt tcacccatcg aagctctatg cccaccacca gcactcctgg gacctccaca       420
gtggatgtgg gaacctcagg gactccatcc tccagcccca gccccacg                    468

<210>  115
```

```
<211>  468

<212>  DNA

<213>  Homo sapiens


<400>  115
actgctggcc ctctcctgat accattcacc ctcaacttca ccatcaccaa cctgcagtat      60

ggggaggaca tgggtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag     120

ggtctgcttg gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga     180

ctgacctctc tcaggtctga gaaggatgga gcagccactg gagtggatgc catctgcatc     240

catcatcttg accccaaaag ccctggactc aacagagagc ggctgtactg ggagctgagc     300

caactgacca atggcatcaa agagctgggc ccctacaccc tggacaggaa cagtctctat     360

gtcaatggtt tcaccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca     420

gtggaccttg gaacctcagg gactccattc tccctcccaa gccccgca                 468


<210>  116

<211>  468

<212>  DNA

<213>  Homo sapiens


<220>

<221>  misc_feature

<222>  (1)..(468)

<223>  All N's = any nucleotide


<400>  116
actgctggcc ctctcctggt gctgttcacc ctcaacttca ccatcaccaa cctgaagtat      60

gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccactgagag ggtcctgcag     120

actctgcttg gtcctatgtt caagaacacc agtgttggcc ttctgtactc tggctgcaga     180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc     240

caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc     300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360
```

```
gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca    420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                468
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<210> 117
<211> 468
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(468)
<223> All N's = any nucleotide

<400> 117
```
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan    60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag agtccttcag    120

ggtctgctca ggcctgtgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga    180

ctgaccttgc tcaggcccaa gaaggatggg gcagccacca aagtggatgc catctgcacc    240

taccgccctg atcccaaaag ccctggactg gacagagagc agctatactg ggagctgagc    300

cagctaaccc acagcatcac tgagctgggc ccctacaccc aggacaggga cagtctctat    360

gtcaatggct tcacccatcg gagctctgtg ccaaccacca gtattcctgg gacctctgca    420

gtgcacctgg aaaccactgg gactccatcc tccttccccg gccacaca                468
```

<210> 118
<211> 468
<212> DNA
<213> Homo sapiens

<400> 118
```
gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcgttat    60

gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag    120

ggtctgctca cgcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga    180
```

```
ctgaccttgc tcagacctga gaagcaggag gcagccactg gagtggacac catctgtacc    240
caccgcgttg atcccatcgg acctggactg gacagagagc ggctatactg ggagctgagc    300
cagctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat    360
gtcgatggct tcaacccttg gagctctgtg ccaaccacca gcactcctgg gacctccaca    420
gtgcacctgg caacctctgg gactccatcc cccctgcctg gccacaca               468
```

<210> 119

<211> 468

<212> DNA

<213> Homo sapiens

<400> 119
```
gccctgtcc ctctcttgat accattcacc ctcaactta ccatcaccga cctgcattat     60
gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag    120
ggtctgctca agcccttgtt caagagcacc agcgttggcc ctctgtactc tggctgcaga    180
ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc    240
ctccgccttg atcccactgg tcctggactg gacagagagc ggctatactg ggagctgagc    300
cagctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat    360
gtcaatggct tcaacccttg gagctctgtg ccaaccacca gcactcctgg gacctccaca    420
gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca               468
```

<210> 120

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 120

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actgctggcc ctctcctggt gccgttcacc ctcaacttca ccatcaccaa cctgaagtac      60

gaggaggaca tgcattgccc tggctccagg aagttcaaca ccacagagag agtcctgcag     120

agtctgcatg gtcccatgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga     180

ctgaccttgc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcacc     240

caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc     300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca     420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                  468
```

<210> 121

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 121

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ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag     120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga     180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc     240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc     300

canctgacca acagcatcac agagctggga ccctacaccc tggataggga cagtctctat     360

gtcaatggtt tcacccatcg aagctctatg cccaccacca gtattcctgg gacctctgca     420

gtgcacctgg aaacctctgg gactccagcc tccctccctg gccacaca                  468
```

```
<210>  122
<211>  468
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide

<400>  122
gccctggcc ctctcctggt gccattcacc ctcaacttca ctatcaccaa cctgcagtat      60
gaggaggaca tgcgtcaccc tggttccagg aagttcaaca ccacggagag agtcctgcag     120
ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga     180
ctgaccttgc tcaggcctga aaaacgtggg gcagccaccg gcgtggacac catctgcact     240
caccgccttg accctctaaa ccctggactg nacagngagc ngctntactg ggagctnagc     300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360
gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca     420
gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                  468
```

```
<210>  123
<211>  468
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide

<400>  123
```

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ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan    60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag   120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga   180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc   240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc   300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat   360

gtcaatggtt ttcaccctcg gagctctgtg ccaaccacca gcactcctgg gacctccaca   420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca             468
```

<210> 124

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 124
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gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat    60

gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagcg ggtcctgcag   120

ggtctgcttg gtcccatgtt caagaacaca agtgtcggcc ttctgtactc tggctgcaga   180

ctgaccttgc tcaggcctga gaagaatggg gcagccactg gaatggatgc catctgcagc   240

caccgtcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc   300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat   360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca   420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca             468
```

<210> 125

<211> 468

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<212>  DNA
<213>  Homo sapiens


<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide


<400>  125
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60
gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag     120
ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga     180
ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc     240
caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc     300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360
gtcaatggtt tcacccatca gaactctgtg cccaccacca gtactcctgg gacctccaca     420
gtgtactggg caaccactgg gactccatcc tccttccccg gccacaca               468

<210>  126
<211>  468
<212>  DNA
<213>  Homo sapiens


<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide


<400>  126
gagcctggcc ctctcctgat accattcact ttcaacttta ccatcaccaa cctgcattat      60
gaggaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag     120
```

```
ggtctgctca cgcccttgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga    180

ctgaccttgc tcagacctga gaagcaggag gcagccactg gagtggacac catctgtacc    240

caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc    300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat    360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca    420

gtgnacntng gnacctcngg gactccatcc tccntccccn gcncaca    468
```

<210> 127

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide


```
<400>  127
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan     60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag    120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga    180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc    240

cacnnnctn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc    300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat    360

gtcaatggtt tcacccatcg gagctctgtg ccaaccacca gcagtcctgg gacctccaca    420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca    468
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<210> 128

<211> 468

<212> DNA

<213> Homo sapiens

```
<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide


<400>   128
gccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcattat      60

gaagaaaaca tgcaacaccc tggttccagg aagttcaaca ccacggagag ggttctgcag     120

ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga     180

ctgaccttgc tcagacctga gaaacatggg gcagccactg gagtggacgc catctgcacc     240

ctccgccttg atcccactgg tcctggactg nacagngagc ngctntactg ggagctnagc     300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca     420

gtgnacntng gnacctcngg gactccatcc tccntcccn gccncaca                    468

<210>   129
<211>   468
<212>   DNA
<213>   Homo sapiens


<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide


<400>   129
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacgnagng ngtnctgcag     120

ggtctgctnn nnccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga      180

ctgaccttnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc     240
```

```
caccnncntn anccccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc    300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat    360

gtcaatggtt tcacccatcg gacctctgtg cccaccacca gcactcctgg gacctccaca    420

gtgcacctgg caacctctgg gactccatcc tccctgcctg gccacaca              468
```

<210> 130

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 130
```
gcccctgtcc ctctcttgat accattcacc ctcaacttta ccatcaccaa cctgcagtat     60

gaggaggaca tgcatcgccc tggatctagg aagttcaaca ccacagagag ggtcctgcag    120

ggtctgctta gtcccatttt caagaactcc agtgttggcc ctctgtactc tggctgcaga    180

ctgacctctc tcaggcccga gaaggatggg gcagcaactg gaatggatgc tgtctgcctc    240

taccacccta atcccaaaag acctggactg nacagngagc ngctntactg ggagctnagc    300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat    360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca    420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca              468
```

<210> 131

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 131
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan   60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag   120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga   180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc   240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc   300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat   360

gtcaatggtt tcacccattg gagctctggg ctcaccacca gcactccttg gacttccaca   420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca   468

<210> 132

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 132
actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat   60

gaggaggaca tgcatcgccc tggatctagg aagttcaacg ccacagagag ggtcctgcag   120

ggtctgctta gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga   180

ctgaccttgc tcagacctga gaagcaggag gcagccactg gagtggacac catctgtacc   240

caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc   300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat   360

```
gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca      420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                   468
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<210> 133

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 133
```
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan       60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag      120

ggtctgctnn nncccntntt caagaacncc agtgtgnggc ntctgtactc tggctgcaga      180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc      240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc      300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat      360

gtcaatggtt tcacccatcg gagctttggg ctcaccacca gcactccttg gacttccaca      420

gttgaccttg gaacctcagg gactccatcc cccgtcccca gccccaca                   468
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<210> 134

<211> 468

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(468)

<223> All N's = any nucleotide

<400> 134
```
actgctggcc ctctcctggt gccattcacc ctaaacttca ccatcaccaa cctgcagtat      60

gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccacggagag ggtccttcag     120

ggtctgctta cgcccttgtt caggaacacc agtgtcagct ctctgtactc tggttgcaga     180

ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgtctgcacc     240

catcgtcctg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc     300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca     420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca              468
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<210> 135

<211> 465

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(465)

<223> All N's = any nucleotide

<400> 135
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ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag     120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga     180

ctgaccttnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc     240

cacnnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc     300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360

gtcaatggtt tcacccattg gatccctgtg cccaccagca gcactcctgg gacctccaca     420

gtggaccttg ggtcagggac tccatcctcc ctccccagcc ccaca                   465
```

```
<210>  136
<211>  468
<212>  DNA
<213>  Homo sapiens


<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide


<400>  136
actgctggcc ctctcctggt accattcacc ctcaacttca ccatcaccaa cctgcagtat        60
ggggaggaca tgggtcaccc tggctccagg aagttcaaca ccacagagag ggtcctgcag       120
ggtctgcttg gtcccatatt caagaacacc agtgttggcc ctctgtactc tggctgcaga       180
ctgacctctc tcaggtccga gaaggatgga gcagccactg gagtggatgc catctgcatc       240
catcatcttg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc       300
canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat       360
gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca       420
gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                    468
```

```
<210>  137
<211>  468
<212>  DNA
<213>  Homo sapiens


<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide
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<400>  137
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan      60

gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagng ngtnctgcag     120

ggtctgctnn nncccntntt caagaacncc agtgtnggcc ntctgtactc tggctgcaga     180

ctgacctnnc tcaggncnga gaagnatggn gcagccactg gantggatgc catctgcanc     240

caccnncntn ancccaaaag ncctggactg nacagngagc ngctntactg ggagctnagc     300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360

gtcaatggtt tcacccatca gacctttgcg cccaacacca gcactcctgg gacctccaca     420

gtggaccttg ggacctcagg gactccatcc tccctcccca gccctaca                 468


<210>  138

<211>  468

<212>  DNA

<213>  Homo sapiens


<220>

<221>  misc_feature

<222>  (1)..(468)

<223>  All N's = any nucleotide


<400>  138
tctgctggcc ctctcctggt gccattcacc ctcaacttca ccatcaccaa cctgcagtac      60

gaggaggaca tgcatccacc aggctccagg aagttcaaca ccacggagcg ggtcctgcag     120

ggtctgcttg gtcccatgtt caagaacacc agtgtcggcc ttctgtactc tggctgcaga     180

ctgaccttgc tcaggcctga gaagaatggg gcagccacca gagtggatgc tgtctgcacc     240

catcgtcctg accccaaaag ccctggactg nacagngagc ngctntactg ggagctnagc     300

canctgacca annncatcnn ngagctgggn ccctacaccc tggacaggna cagtctctat     360

gtcaatggtt tcacccatcn ganctctgng cccaccacca gcactcctgg gacctccaca     420

gtgnacntng gnacctcngg gactccatcc tccntccccn gccncaca                 468


<210>  139
```

```
<211>  468
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (1)..(468)
<223>  All N's = any nucleotide

<400>  139
ncnnctgncc ctctcctgnt nccnttcacc ntcaacttna ccatcaccaa cctgcantan    60
gnggannaca tgcnncnccc nggntccagg aagttcaaca ccacngagag ggttctgcag   120
ggtctgctca agcccttgtt caagagcacc agtgttggcc ctctgtattc tggctgcaga   180
ctgaccttgc tcaggcctga gaaggacgga gtagccacca gagtggacgc catctgcacc   240
caccgccctg accccaaaat ccctgggcta gacagacagc agctatactg ggagctgagc   300
cagctgaccc acagcatcac tgagctggga ccctacaccc tggataggga cagtctctat   360
gtcaatggtt tcacccagcg gagctctgtg cccaccacca gcactcctgg gactttcaca   420
gtacagccgg aaacctctga gactccatca tccctccctg gccccaca               468

<210>  140
<211>  468
<212>  DNA
<213>  Homo sapiens

<400>  140
gccactggcc ctgtcctgct gccattcacc ctcaatttta ccatcactaa cctgcagtat    60
gaggaggaca tgcatcgccc tggctccagg aagttcaaca ccacggagag ggtccttcag   120
ggtctgctta tgcccttgtt caagaacacc agtgtcagct ctctgtactc tggttgcaga   180
ctgaccttgc tcaggcctga gaaggatggg gcagccacca gagtggatgc tgtctgcacc   240
catcgtcctg accccaaaag ccctggactg gacagagagc ggctgtactg gaagctgagc   300
cagctgaccc acggcatcac tgagctgggc ccctacaccc tggacaggca cagtctctat   360
```

```
gtcaatggtt tcacccatca gagctctatg acgaccacca gaactcctga tacctccaca      420

atgcacctgg caactcgag aactccagcc tccctgtctg gacctacg                    468
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<210> 141

<211> 468

<212> DNA

<213> Homo sapiens

<400> 141
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accgccagcc ctctcctggt gctattcaca attaacttca ccatcactaa cctgcggtat       60

gaggagaaca tgcatcaccc tggctctaga aagtttaaca ccacggagag agtccttcag      120

ggtctgctca ggcctgtgtt caagaacacc agtgttggcc ctctgtactc tggctgcaga      180

ctgaccttgc tcaggcccaa gaaggatggg gcagccacca aagtggatgc catctgcacc      240

taccgccctg atcccaaaag ccctggactg gacagagagc agctatactg ggagctgagc      300

cagctaaccc acagcatcac tgagctgggc ccctacaccc tggacaggga cagtctctat      360

gtcaatggtt tcacacagcg gagctctgtg cccaccacta gcattcctgg gacccccaca      420

gtggacctgg gaacatctgg gactccagtt tctaaacctg gtccctcg                   468
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<210> 142

<211> 468

<212> DNA

<213> Homo sapiens

<400> 142
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gctgccagcc ctctcctggt gctattcact ctcaacttca ccatcaccaa cctgcggtat       60

gaggagaaca tgcagcaccc tggctccagg aagttcaaca ccacggagag ggtccttcag      120

ggcctgctca ggtccctgtt caagagcacc agtgttggcc ctctgtactc tggctgcaga      180

ctgacctttgc tcaggcctga aaaggatggg acagccactg gagtggatgc catctgcacc      240

caccaccctg accccaaaag ccctaggctg gacagagagc agctgtattg ggagctgagc      300

cagctgaccc acaatatcac tgagctgggc cactatgccc tggacaacga cagcctcttt      360

gtcaatggtt tcactcatcg gagctctgtg tccaccacca gcactcctgg gacccccaca      420

gtgtatctgg gagcatctaa gactccagcc tcgatatttg gcccttca                   468
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<210> 143
<211> 399
<212> DNA
<213> Homo sapiens

<400> 143
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gctgccagcc atctcctgat actattcacc ctcaacttca ccatcactaa cctgcggtat      60
gaggagaaca tgtggcctgg ctccaggaag ttcaacacta cagagagggt ccttcagggc     120
ctgctaaggc ccttgttcaa gaacaccagt gttggccctc tgtactctgg ctccaggctg     180
accttgctca ggccagagaa agatggggaa gccaccggag tggatgccat ctgcacccac     240
cgccctgacc ccacaggccc tgggctggac agagagcagc tgtatttgga gctgagccag     300
ctgacccaca gcatcactga gctgggcccc tacacactgg acagggacag tctctatgtc     360
aatggtttca cccatcggga ctctgtaccc accaccagc                            399
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<210> 144
<211> 453
<212> DNA
<213> Homo sapiens

<400> 144
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accggggtgg tcagcgagga gccattcaca ctgaacttca ccatcaacaa cctgcgctac      60
atggcggaca tgggccaacc cggctccctc aagttcaaca tcacagacaa cgtcatgaag     120
cacctgctca gtcctttgtt ccagaggagc agcctgggtg cacggtacac aggctgcagg     180
gtcatcgcac taaggtctgt gaagaaccggt gctgagacac gggtggacct cctctgcacc     240
tacctgcagc ccctcagcgg cccaggtctg cctatcaagc aggtgttcca tgagctgagc     300
cagcagaccc atggcatcac ccggctgggc ccctactctc tggacaaaga cagcctctac     360
cttaacggtt acaatgaacc tggtctagat gagcctccta caactcccaa gccagccacc     420
acattcctgc ctcctctgtc agaagccaca aca                                  453
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<210> 145

<211> 465

<212> DNA

<213> Homo sapiens

<400> 145
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gccatggggt accacctgaa gaccctcaca ctcaacttca ccatctccaa tctccagtat      60

tcaccagata tgggcaaggg ctcagctaca ttcaactcca ccgaggggt ccttcagcac     120

ctgctcagac ccttgttcca gaagagcagc atgggcccct tctacttggg ttgccaactg     180

atctccctca ggcctgagaa ggatggggca gccactggtg tggacaccac ctgcacctac     240

caccctgacc ctgtgggccc cgggctggac atacagcagc tttactggga gctgagtcag     300

ctgacccatg gtgtcaccca actgggcttc tatgtcctga caaggatag cctcttcatc     360

aatggctatg caccccagaa tttatcaatc cggggcgagt accagataaa tttccacatt     420

gtcaactgga acctgagtaa tccagacccc acatcctcag agtac              465
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<210> 146

<211> 9799

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(9799)

<223> Any "X" = any amino acid

<400> 146

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Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1                   5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg
        35                  40                  45

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu
    50                  55                  60
```

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr
65   70   75   80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr
             85   90   95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr
         100   105   110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
         115   120   125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly
     130   135   140

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro
145   150   155   160

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
             165   170   175

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu
             180   185   190

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val
         195   200   205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
     210   215   220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp
225   230   235   240

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser
             245   250   255

Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg
         260   265   270

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr
         275   280   285

Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr
     290   295   300

Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu
305   310   315   320

Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu
             325   330   335

Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
             340   345   350

Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro
         355   360   365

Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly

```
        370                     375                     380

Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys
385                     390                     395                     400

Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu
                    405                     410                     415

Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser
                420                     425                     430

Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser
            435                     440                     445

Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe
        450                     455                     460

Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr
465                     470                     475                     480

Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg
                    485                     490                     495

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu
                500                     505                     510

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
            515                     520                     525

Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly
        530                     535                     540

Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu
545                     550                     555                     560

Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile
                    565                     570                     575

Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn
                580                     585                     590

Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr
            595                     600                     605

Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro
        610                     615                     620

Thr Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
625                     630                     635                     640

Thr Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys
                    645                     650                     655

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe
                660                     665                     670

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu
                675                     680                     685
```

Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys
   690   695   700

Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu
705   710   715   720

Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro
         725   730   735

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln
       740   745   750

Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu
   755   760   765

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly
   770   775   780

Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln
785   790   795   800

Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr
       805   810   815

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
     820   825   830

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu
   835   840   845

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu
   850   855   860

Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu
865   870   875   880

Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
       885   890   895

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro
       900   905   910

Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
     915   920   925

Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val
   930   935   940

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
945   950   955   960

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
       965   970   975

Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu
     980   985   990

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala
   995   1000   1005

```
Ala Thr  Gly Met Asp Ala Ile  Cys Ser His Arg Leu  Asp Pro Lys
    1010             1015             1020

Ser Pro  Gly Leu Asn Arg Glu  Gln Leu Tyr Trp Glu  Leu Ser Gln
    1025             1030             1035

Leu Thr  His Gly Ile Lys Glu  Leu Gly Pro Tyr Thr  Leu Asp Arg
    1040             1045             1050

Asn Ser  Leu Tyr Val Asn Gly  Phe Thr His Arg Ser  Ser Val Ala
    1055             1060             1065

Pro Thr  Ser Thr Pro Gly Thr  Ser Thr Val Asp Leu  Gly Thr Ser
    1070             1075             1080

Gly Thr  Pro Ser Ser Leu Pro  Ser Pro Thr Thr Ala  Val Pro Leu
    1085             1090             1095

Leu Val  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Gln Tyr
    1100             1105             1110

Gly Glu  Asp Met Arg His Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    1115             1120             1125

Glu Arg  Val Leu Gln Gly Leu  Leu Gly Pro Leu Phe  Lys Asn Ser
    1130             1135             1140

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Ile  Ser Leu Arg
    1145             1150             1155

Ser Glu  Lys Asp Gly Ala Ala  Thr Gly Val Asp Ala  Ile Cys Thr
    1160             1165             1170

His His  Leu Asn Pro Gln Ser  Pro Gly Leu Asp Arg  Glu Gln Leu
    1175             1180             1185

Tyr Trp  Gln Leu Ser Gln Met  Thr Asn Gly Ile Lys  Glu Leu Gly
    1190             1195             1200

Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr Val Asn  Gly Phe Thr
    1205             1210             1215

His Arg  Ser Ser Gly Leu Thr  Thr Ser Thr Pro Trp  Thr Ser Thr
    1220             1225             1230

Val Asp  Leu Gly Thr Ser Gly  Thr Pro Ser Pro Val  Pro Ser Pro
    1235             1240             1245

Thr Thr  Ala Gly Pro Leu Leu  Val Pro Phe Thr Leu  Asn Phe Thr
    1250             1255             1260

Ile Thr  Asn Leu Gln Tyr Glu  Glu Asp Met His Arg  Pro Gly Ser
    1265             1270             1275

Arg Lys  Phe Asn Ala Thr Glu  Arg Val Leu Gln Gly  Leu Leu Ser
    1280             1285             1290

Pro Ile  Phe Lys Asn Ser Ser  Val Gly Pro Leu Tyr  Ser Gly Cys
```

```
      1295                    1300                    1305
Arg Leu  Thr Ser Leu Arg Pro  Glu Lys Asp Gly Ala  Ala Thr Gly
      1310                    1315                    1320

Met Asp  Ala Val Cys Leu Tyr  His Pro Asn Pro Lys  Arg Pro Gly
      1325                    1330                    1335

Leu Asp  Arg Glu Gln Leu Tyr  Trp Glu Leu Ser Gln  Leu Thr His
      1340                    1345                    1350

Asn Ile  Thr Glu Leu Gly Pro  Tyr Ser Leu Asp Arg  Asp Ser Leu
      1355                    1360                    1365

Tyr Val  Asn Gly Phe Thr His  Gln Asn Ser Val Pro  Thr Thr Ser
      1370                    1375                    1380

Thr Pro  Gly Thr Ser Thr Val  Tyr Trp Ala Thr Thr  Gly Thr Pro
      1385                    1390                    1395

Ser Ser  Phe Pro Gly His Thr  Glu Pro Gly Pro Leu  Leu Ile Pro
      1400                    1405                    1410

Phe Thr  Phe Asn Phe Thr Ile  Thr Asn Leu His Tyr  Glu Glu Asn
      1415                    1420                    1425

Met Gln  His Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
      1430                    1435                    1440

Leu Gln  Gly Leu Leu Lys Pro  Leu Phe Lys Asn Thr  Ser Val Gly
      1445                    1450                    1455

Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Ser Leu Arg  Pro Glu Lys
      1460                    1465                    1470

Asp Gly  Ala Ala Thr Gly Met  Asp Ala Val Cys Leu  Tyr His Pro
      1475                    1480                    1485

Asn Pro  Lys Arg Pro Gly Leu  Asp Arg Glu Gln Leu  Tyr Cys Glu
      1490                    1495                    1500

Leu Ser  Gln Leu Thr His Asn  Ile Thr Glu Leu Gly  Pro Tyr Ser
      1505                    1510                    1515

Leu Asp  Arg Asp Ser Leu Tyr  Val Asn Gly Phe Thr  His Gln Asn
      1520                    1525                    1530

Ser Val  Pro Thr Thr Ser Thr  Pro Gly Thr Ser Thr  Val Tyr Trp
      1535                    1540                    1545

Ala Thr  Thr Gly Thr Pro Ser  Ser Phe Pro Gly His  Thr Glu Pro
      1550                    1555                    1560

Gly Pro  Leu Leu Ile Pro Phe  Thr Phe Asn Phe Thr  Ile Thr Asn
      1565                    1570                    1575

Leu His  Tyr Glu Glu Asn Met  Gln His Pro Gly Ser  Arg Lys Phe
      1580                    1585                    1590
```

Asn Thr   Thr Glu Arg Val Leu   Gln Gly Leu Leu Lys   Pro Leu Phe
    1595   1600   1605

Lys Asn   Thr Ser Val Gly Pro   Leu Tyr Ser Gly Cys   Arg Leu Thr
    1610   1615   1620

Leu Leu   Arg Pro Glu Lys His   Glu Ala Ala Thr Gly   Val Asp Thr
    1625   1630   1635

Ile Cys   Thr His Arg Val Asp   Pro Ile Gly Pro Gly   Leu Asp Arg
    1640   1645   1650

Glu Arg   Leu Tyr Trp Glu Leu   Ser Gln Leu Thr Asn   Ser Ile Thr
    1655   1660   1665

Glu Leu   Gly Pro Tyr Thr Leu   Asp Arg Asp Ser Leu   Tyr Val Asn
    1670   1675   1680

Gly Phe   Asn Pro Arg Ser Ser   Val Pro Thr Thr Ser   Thr Pro Gly
    1685   1690   1695

Thr Ser   Thr Val His Leu Ala   Thr Ser Gly Thr Pro   Ser Ser Leu
    1700   1705   1710

Pro Gly   His Thr Ala Pro Val   Pro Leu Leu Ile Pro   Phe Thr Leu
    1715   1720   1725

Asn Phe   Thr Ile Thr Asn Leu   His Tyr Glu Glu Asn   Met Gln His
    1730   1735   1740

Pro Gly   Ser Arg Lys Phe Asn   Thr Thr Glu Arg Val   Leu Gln Gly
    1745   1750   1755

Leu Leu   Lys Pro Leu Phe Lys   Asn Thr Ser Val Gly   Pro Leu Tyr
    1760   1765   1770

Ser Gly   Cys Arg Leu Thr Leu   Leu Arg Pro Glu Lys   His Glu Ala
    1775   1780   1785

Ala Thr   Gly Val Asp Thr Ile   Cys Thr His Arg Val   Asp Pro Ile
    1790   1795   1800

Gly Pro   Gly Leu Asp Arg Glu   Xaa Leu Tyr Trp Glu   Leu Ser Xaa
    1805   1810   1815

Leu Thr   Xaa Xaa Ile Xaa Glu   Leu Gly Pro Tyr Xaa   Leu Asp Arg
    1820   1825   1830

Xaa Ser   Leu Tyr Val Asn Gly   Phe Xaa Xaa Xaa Xaa   Xaa Xaa Xaa
    1835   1840   1845

Xaa Thr   Ser Thr Pro Gly Thr   Ser Xaa Val Xaa Leu   Xaa Thr Ser
    1850   1855   1860

Gly Thr   Pro Xaa Xaa Xaa Pro   Xaa Xaa Thr Ser Ala   Gly Pro Leu
    1865   1870   1875

Leu Val   Pro Phe Thr Leu Asn   Phe Thr Ile Thr Asn   Leu Gln Tyr
    1880   1885   1890

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Glu Glu  Asp Met His His Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    1895              1900              1905

Glu Arg  Val Leu Gln Gly Leu  Leu Gly Pro Met Phe  Lys Asn Thr
    1910              1915              1920

Ser Val  Gly Leu Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
    1925              1930              1935

Pro Glu  Lys Asn Gly Ala Ala  Thr Gly Met Asp Ala  Ile Cys Ser
    1940              1945              1950

His Arg  Leu Asp Pro Lys Ser  Pro Gly Leu Asp Arg  Glu Gln Leu
    1955              1960              1965

Tyr Trp  Glu Leu Ser Gln Leu  Thr His Gly Ile Lys  Glu Leu Gly
    1970              1975              1980

Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr Val Asn  Gly Phe Thr
    1985              1990              1995

His Arg  Ser Ser Val Ala Pro  Thr Ser Thr Pro Gly  Thr Ser Thr
    2000              2005              2010

Val Asp  Leu Gly Thr Ser Gly  Thr Pro Ser Ser Leu  Pro Ser Pro
    2015              2020              2025

Thr Thr  Ala Val Pro Leu Leu  Val Pro Phe Thr Leu  Asn Phe Thr
    2030              2035              2040

Ile Thr  Asn Leu Gln Tyr Gly  Glu Asp Met Arg His  Pro Gly Ser
    2045              2050              2055

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Gly
    2060              2065              2070

Pro Leu  Phe Lys Asn Ser Ser  Val Gly Pro Leu Tyr  Ser Gly Cys
    2075              2080              2085

Arg Leu  Ile Ser Leu Arg Ser  Glu Lys Asp Gly Ala  Ala Thr Gly
    2090              2095              2100

Val Asp  Ala Ile Cys Thr His  His Leu Asn Pro Gln  Ser Pro Gly
    2105              2110              2115

Leu Asp  Arg Glu Gln Leu Tyr  Trp Gln Leu Ser Gln  Met Thr Asn
    2120              2125              2130

Gly Ile  Lys Glu Leu Gly Pro  Tyr Thr Leu Asp Arg  Asn Ser Leu
    2135              2140              2145

Tyr Val  Asn Gly Phe Thr His  Arg Ser Ser Gly Leu  Thr Thr Ser
    2150              2155              2160

Thr Pro  Trp Thr Ser Thr Val  Asp Leu Gly Thr Ser  Gly Thr Pro
    2165              2170              2175

Ser Pro  Val Pro Ser Pro Thr  Thr Ala Gly Pro Leu  Leu Val Pro
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     2180                    2185                   2190
Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Gln Tyr  Glu Glu Asp
     2195                    2200                   2205

Met His  Arg Pro Gly Ser Arg  Lys Phe Asn Ala Thr  Glu Arg Val
     2210                    2215                   2220

Leu Gln  Gly Leu Leu Ser Pro  Ile Phe Lys Asn Ser  Ser Val Gly
     2225                    2230                   2235

Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Ser Leu Arg  Pro Glu Lys
     2240                    2245                   2250

Asp Gly  Ala Ala Thr Gly Met  Asp Ala Val Cys Leu  Tyr His Pro
     2255                    2260                   2265

Asn Pro  Lys Arg Pro Gly Leu  Asp Arg Glu Gln Leu  Tyr Trp Glu
     2270                    2275                   2280

Leu Ser  Gln Leu Thr His Asn  Ile Thr Glu Leu Leu  Pro Tyr Ser
     2285                    2290                   2295

Leu Asp  Arg Asp Ser Leu Tyr  Val Asn Gly Phe Thr  His Gln Ser
     2300                    2305                   2310

Ser Met  Thr Thr Thr Arg Thr  Pro Asp Thr Ser Thr  Met His Leu
     2315                    2320                   2325

Ala Thr  Ser Arg Thr Pro Ala  Ser Leu Ser Gly Pro  Thr Thr Ala
     2330                    2335                   2340

Ser Pro  Leu Leu Val Leu Phe  Thr Ile Asn Cys Thr  Ile Thr Asn
     2345                    2350                   2355

Leu Gln  Tyr Glu Glu Asp Met  Arg Arg Thr Gly Ser  Arg Lys Phe
     2360                    2365                   2370

Asn Thr  Met Glu Ser Val Leu  Gln Gly Leu Leu Lys  Pro Leu Phe
     2375                    2380                   2385

Lys Asn  Thr Ser Val Gly Pro  Leu Tyr Ser Gly Cys  Arg Leu Thr
     2390                    2395                   2400

Leu Leu  Arg Pro Lys Lys Asp  Gly Ala Ala Thr Gly  Val Asp Ala
     2405                    2410                   2415

Ile Cys  Thr His Arg Leu Asp  Pro Lys Ser Pro Gly  Leu Asn Arg
     2420                    2425                   2430

Glu Gln  Leu Tyr Trp Glu Leu  Ser Lys Leu Thr Asn  Asp Ile Glu
     2435                    2440                   2445

Glu Leu  Gly Pro Tyr Thr Leu  Asp Arg Asn Ser Leu  Tyr Val Asn
     2450                    2455                   2460

Gly Phe  Thr His Gln Ser Ser  Val Ser Thr Thr Ser  Thr Pro Gly
     2465                    2470                   2475
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Thr Ser  Thr Val Asp Leu Arg  Thr Ser Gly Thr Pro  Ser Ser Leu
    2480                 2485                 2490

Ser Ser  Pro Thr Ile Met Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe
    2495                 2500                 2505

Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met
    2510                 2515                 2520

Xaa Xaa  Pro Gly Ser Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu
    2525                 2530                 2535

Gln Gly  Leu Leu Arg Pro Leu  Phe Lys Asn Thr Ser  Val Ser Ser
    2540                 2545                 2550

Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Pro  Glu Lys Asp
    2555                 2560                 2565

Gly Ala  Ala Thr Arg Val Asp  Ala Ala Cys Thr Tyr  Arg Pro Asp
    2570                 2575                 2580

Pro Lys  Ser Pro Gly Leu Asp  Arg Glu Gln Leu Tyr  Trp Glu Leu
    2585                 2590                 2595

Ser Gln  Leu Thr His Ser Ile  Thr Glu Leu Gly Pro  Tyr Thr Leu
    2600                 2605                 2610

Asp Arg  Val Ser Leu Tyr Val  Asn Gly Phe Asn Pro  Arg Ser Ser
    2615                 2620                 2625

Val Pro  Thr Thr Ser Thr Pro  Gly Thr Ser Thr Val  His Leu Ala
    2630                 2635                 2640

Thr Ser  Gly Thr Pro Ser Ser  Leu Pro Gly His Thr  Ala Pro Val
    2645                 2650                 2655

Pro Leu  Leu Ile Pro Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu
    2660                 2665                 2670

His Tyr  Glu Glu Asn Met Gln  His Pro Gly Ser Arg  Lys Phe Asn
    2675                 2680                 2685

Thr Thr  Glu Arg Val Leu Gln  Gly Leu Leu Arg Pro  Leu Phe Lys
    2690                 2695                 2700

Ser Thr  Ser Val Gly Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu
    2705                 2710                 2715

Leu Arg  Pro Glu Lys His Gly  Ala Ala Thr Gly Val  Asp Ala Ile
    2720                 2725                 2730

Cys Thr  Leu Arg Leu Asp Pro  Thr Gly Pro Gly Leu  Asp Arg Glu
    2735                 2740                 2745

Arg Leu  Tyr Trp Glu Leu Ser  Gln Leu Thr Asn Ser  Val Thr Glu
    2750                 2755                 2760

Leu Gly  Pro Tyr Thr Leu Asp  Arg Asp Ser Leu Tyr  Val Asn Gly
    2765                 2770                 2775
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Phe Thr  Gln Arg Ser Ser Val  Pro Thr Thr Ser Ile  Pro Gly Thr
    2780                2785                2790

Ser Ala  Val His Leu Glu Thr  Ser Gly Thr Pro Ala  Ser Leu Pro
    2795                2800                2805

Gly His  Thr Ala Pro Gly Pro  Leu Leu Val Pro Phe  Thr Leu Asn
    2810                2815                2820

Phe Thr  Ile Thr Asn Leu Gln  Tyr Glu Val Asp Met  Arg His Pro
    2825                2830                2835

Gly Ser  Arg Lys Phe Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu
    2840                2845                2850

Leu Lys  Pro Leu Phe Lys Ser  Thr Ser Val Gly Pro  Leu Tyr Ser
    2855                2860                2865

Gly Cys  Arg Leu Thr Leu Leu  Arg Pro Glu Lys Arg  Gly Ala Ala
    2870                2875                2880

Thr Gly  Val Asp Thr Ile Cys  Thr His Arg Leu Asp  Pro Leu Asn
    2885                2890                2895

Pro Gly  Leu Asp Arg Glu Gln  Leu Tyr Trp Glu Leu  Ser Lys Leu
    2900                2905                2910

Thr Arg  Gly Ile Ile Glu Leu  Gly Pro Tyr Leu Leu  Asp Arg Gly
    2915                2920                2925

Ser Leu  Tyr Val Asn Gly Phe  Thr His Arg Asn Phe  Val Pro Ile
    2930                2935                2940

Thr Ser  Thr Pro Gly Thr Ser  Thr Val His Leu Gly  Thr Ser Glu
    2945                2950                2955

Thr Pro  Ser Ser Leu Pro Arg  Pro Ile Val Pro Gly  Pro Leu Leu
    2960                2965                2970

Val Pro  Phe Thr Leu Asn Phe  Thr Ile Thr Asn Leu  Gln Tyr Glu
    2975                2980                2985

Glu Ala  Met Arg His Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu
    2990                2995                3000

Arg Val  Leu Gln Gly Leu Leu  Arg Pro Leu Phe Lys  Asn Thr Ser
    3005                3010                3015

Ile Gly  Pro Leu Tyr Ser Ser  Cys Arg Leu Thr Leu  Leu Arg Pro
    3020                3025                3030

Glu Lys  Asp Lys Ala Ala Thr  Arg Val Asp Ala Ile  Cys Thr His
    3035                3040                3045

His Pro  Asp Pro Gln Ser Pro  Gly Leu Asn Arg Glu  Gln Leu Tyr
    3050                3055                3060

Trp Glu  Leu Ser Gln Leu Thr  His Gly Ile Thr Glu  Leu Gly Pro
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      3065                    3070                    3075
Tyr Thr  Leu Asp Arg Asp Ser  Leu Tyr Val Asp Gly  Phe Thr His
      3080                    3085                    3090

Trp Ser  Pro Ile Pro Thr Thr  Ser Thr Pro Gly Thr  Ser Ile Val
      3095                    3100                    3105

Asn Leu  Gly Thr Ser Gly Ile  Pro Pro Ser Leu Pro  Glu Thr Thr
      3110                    3115                    3120

Xaa Xaa  Xaa Pro Leu Leu Xaa  Pro Phe Thr Leu Asn  Phe Thr Ile
      3125                    3130                    3135

Thr Asn  Leu Xaa Tyr Glu Glu  Xaa Met Xaa Xaa Pro  Gly Ser Arg
      3140                    3145                    3150

Lys Phe  Asn Thr Thr Glu Arg  Val Leu Gln Gly Leu  Leu Lys Pro
      3155                    3160                    3165

Leu Phe  Arg Asn Ser Ser Leu  Glu Tyr Leu Tyr Ser  Gly Cys Arg
      3170                    3175                    3180

Leu Ala  Ser Leu Arg Pro Glu  Lys Asp Ser Ser Ala  Met Ala Val
      3185                    3190                    3195

Asp Ala  Ile Cys Thr His Arg  Pro Asp Pro Glu Asp  Leu Gly Leu
      3200                    3205                    3210

Asp Arg  Glu Arg Leu Tyr Trp  Glu Leu Ser Asn Leu  Thr Asn Gly
      3215                    3220                    3225

Ile Gln  Glu Leu Gly Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr
      3230                    3235                    3240

Val Asn  Gly Phe Thr His Arg  Ser Ser Phe Leu Thr  Thr Ser Thr
      3245                    3250                    3255

Pro Trp  Thr Ser Thr Val Asp  Leu Gly Thr Ser Gly  Thr Pro Ser
      3260                    3265                    3270

Pro Val  Pro Ser Pro Thr Thr  Ala Gly Pro Leu Leu  Val Pro Phe
      3275                    3280                    3285

Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Gln Tyr Glu  Glu Asp Met
      3290                    3295                    3300

His Arg  Pro Gly Ser Arg Arg  Phe Asn Thr Thr Glu  Arg Val Leu
      3305                    3310                    3315

Gln Gly  Leu Leu Thr Pro Leu  Phe Lys Asn Thr Ser  Val Gly Pro
      3320                    3325                    3330

Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Pro  Glu Lys Gln
      3335                    3340                    3345

Glu Ala  Ala Thr Gly Val Asp  Thr Ile Cys Thr His  Arg Val Asp
      3350                    3355                    3360
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Pro Ile  Gly Pro Gly Leu Asp  Arg Glu Arg Leu Tyr  Trp Glu Leu
    3365             3370             3375

Ser Gln  Leu Thr Asn Ser Ile  Thr Glu Leu Gly Pro  Tyr Thr Leu
    3380             3385             3390

Asp Arg  Asp Ser Leu Tyr Val  Asn Gly Phe Asn Pro  Trp Ser Ser
    3395             3400             3405

Val Pro  Thr Thr Ser Thr Pro  Gly Thr Ser Thr Val  His Leu Ala
    3410             3415             3420

Thr Ser  Gly Thr Pro Ser Ser  Leu Pro Gly His Thr  Ala Pro Val
    3425             3430             3435

Pro Leu  Leu Ile Pro Phe Thr  Leu Asn Phe Thr Ile  Thr Asp Leu
    3440             3445             3450

His Tyr  Glu Glu Asn Met Gln  His Pro Gly Ser Arg  Lys Phe Asn
    3455             3460             3465

Thr Thr  Glu Arg Val Leu Gln  Gly Leu Leu Lys Pro  Leu Phe Lys
    3470             3475             3480

Ser Thr  Ser Val Gly Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu
    3485             3490             3495

Leu Arg  Pro Glu Lys His Gly  Ala Ala Thr Gly Val  Asp Ala Ile
    3500             3505             3510

Cys Thr  Leu Arg Leu Asp Pro  Thr Gly Pro Gly Leu  Asp Arg Glu
    3515             3520             3525

Arg Leu  Tyr Trp Glu Leu Ser  Gln Leu Thr Asn Ser  Val Thr Glu
    3530             3535             3540

Leu Gly  Pro Tyr Thr Leu Asp  Arg Asp Ser Leu Tyr  Val Asn Gly
    3545             3550             3555

Phe Thr  His Arg Ser Ser Val  Pro Thr Thr Ser Ile  Pro Gly Thr
    3560             3565             3570

Ser Ala  Val His Leu Glu Thr  Ser Gly Thr Pro Ala  Ser Leu Pro
    3575             3580             3585

Gly His  Thr Ala Pro Gly Pro  Leu Leu Val Pro Phe  Thr Leu Asn
    3590             3595             3600

Phe Thr  Ile Thr Asn Leu Gln  Tyr Glu Glu Asp Met  Arg His Pro
    3605             3610             3615

Gly Ser  Arg Lys Phe Ser Thr  Thr Glu Arg Val Leu  Gln Gly Leu
    3620             3625             3630

Leu Lys  Pro Leu Phe Lys Asn  Thr Ser Val Ser Ser  Leu Tyr Ser
    3635             3640             3645

Gly Cys  Arg Leu Thr Leu Leu  Arg Pro Glu Lys Asp  Gly Ala Ala
    3650             3655             3660
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Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser
    3665   3670   3675

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu
    3680   3685   3690

Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His
    3695   3700   3705

Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr
    3710   3715   3720

Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
    3725   3730   3735

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu
    3740   3745   3750

Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu
    3755   3760   3765

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
    3770   3775   3780

Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser
    3785   3790   3795

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro
    3800   3805   3810

Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr
    3815   3820   3825

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr
    3830   3835   3840

Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro
    3845   3850   3855

Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His
    3860   3865   3870

Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val
    3875   3880   3885

His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr
    3890   3895   3900

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
    3905   3910   3915

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg
    3920   3925   3930

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro
    3935   3940   3945

Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg

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         3950                    3955                       3960

Leu Thr  Leu Leu Arg Pro Glu  Lys Arg Gly Ala Ala  Thr Gly Val
    3965                    3970                     3975

Asp Thr  Ile Cys Thr His Arg  Leu Asp Pro Leu Asn  Pro Gly Leu
    3980                    3985                     3990

Asp Arg  Glu Gln Leu Tyr Trp  Glu Leu Ser Lys Leu  Thr Arg Gly
    3995                    4000                     4005

Ile Ile  Glu Leu Gly Pro Tyr  Leu Leu Asp Arg Gly  Ser Leu Tyr
    4010                    4015                     4020

Val Asn  Gly Phe Thr His Arg  Thr Ser Val Pro Thr  Thr Ser Thr
    4025                    4030                     4035

Pro Gly  Thr Ser Thr Val Asp  Leu Gly Thr Ser Gly  Thr Pro Phe
    4040                    4045                     4050

Ser Leu  Pro Ser Pro Ala Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe
    4055                    4060                     4065

Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met
    4070                    4075                     4080

Xaa Xaa  Pro Gly Ser Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu
    4085                    4090                     4095

Gln Thr  Leu Leu Gly Pro Met  Phe Lys Asn Thr Ser  Val Gly Leu
    4100                    4105                     4110

Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Ser  Glu Lys Asp
    4115                    4120                     4125

Gly Ala  Ala Thr Gly Val Asp  Ala Ile Cys Thr His  Arg Leu Asp
    4130                    4135                     4140

Pro Lys  Ser Pro Gly Val Asp  Arg Glu Gln Leu Tyr  Trp Glu Leu
    4145                    4150                     4155

Ser Gln  Leu Thr Asn Gly Ile  Lys Glu Leu Gly Pro  Tyr Thr Leu
    4160                    4165                     4170

Asp Arg  Asn Ser Leu Tyr Val  Asn Gly Phe Thr His  Trp Ile Pro
    4175                    4180                     4185

Val Pro  Thr Ser Ser Thr Pro  Gly Thr Ser Thr Val  Asp Leu Gly
    4190                    4195                     4200

Ser Gly  Thr Pro Ser Leu Pro  Ser Ser Pro Thr Thr  Ala Gly Pro
    4205                    4210                     4215

Leu Leu  Val Pro Phe Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Lys
    4220                    4225                     4230

Tyr Glu  Glu Asp Met His Cys  Pro Gly Ser Arg Lys  Phe Asn Thr
    4235                    4240                     4245
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Thr Glu  Arg Val Leu Gln Ser  Leu Leu Gly Pro Met  Phe Lys Asn
    4250             4255             4260

Thr Ser  Val Gly Pro Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu
    4265             4270             4275

Arg Ser  Glu Lys Asp Gly Ala  Ala Thr Gly Val Asp  Ala Ile Cys
    4280             4285             4290

Thr His  Arg Leu Asp Pro Lys  Ser Pro Gly Val Asp  Arg Glu Gln
    4295             4300             4305

Leu Tyr  Trp Glu Leu Ser Gln  Leu Thr Asn Gly Ile  Lys Glu Leu
    4310             4315             4320

Gly Pro  Tyr Thr Leu Asp Arg  Asn Ser Leu Tyr Val  Asn Gly Phe
    4325             4330             4335

Thr His  Gln Thr Ser Ala Pro  Asn Thr Ser Thr Pro  Gly Thr Ser
    4340             4345             4350

Thr Val  Asp Leu Gly Thr Ser  Gly Thr Pro Ser Ser  Leu Pro Ser
    4355             4360             4365

Pro Thr  Xaa Xaa Xaa Pro Leu  Leu Xaa Pro Phe Thr  Leu Asn Phe
    4370             4375             4380

Thr Ile  Thr Asn Leu Xaa Tyr  Glu Glu Xaa Met Xaa  Xaa Pro Gly
    4385             4390             4395

Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val Leu Gln  Gly Leu Leu
    4400             4405             4410

Xaa Pro  Xaa Phe Lys Xaa Thr  Ser Val Gly Xaa Leu  Tyr Ser Gly
    4415             4420             4425

Cys Arg  Leu Thr Leu Leu Arg  Xaa Glu Lys Xaa Xaa  Ala Ala Thr
    4430             4435             4440

Xaa Val  Asp Xaa Xaa Cys Xaa  Xaa Xaa Xaa Asp Pro  Xaa Xaa Pro
    4445             4450             4455

Gly Leu  Asp Arg Glu Xaa Leu  Tyr Trp Glu Leu Ser  Xaa Leu Thr
    4460             4465             4470

Xaa Xaa  Ile Xaa Glu Leu Gly  Pro Tyr Xaa Leu Asp  Arg Xaa Ser
    4475             4480             4485

Leu Tyr  Val Asn Gly Phe Thr  His Trp Ile Pro Val  Pro Thr Ser
    4490             4495             4500

Ser Thr  Pro Gly Thr Ser Thr  Val Asp Leu Gly Ser  Gly Thr Pro
    4505             4510             4515

Ser Ser  Leu Pro Ser Pro Thr  Thr Ala Gly Pro Leu  Leu Val Pro
    4520             4525             4530

Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Lys Tyr  Glu Glu Asp
    4535             4540             4545
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Met His  Cys Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
    4550             4555             4560

Leu Gln  Ser Leu Leu Gly Pro  Met Phe Lys Asn Thr  Ser Val Gly
    4565             4570             4575

Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Ser Leu Arg  Ser Glu Lys
    4580             4585             4590

Asp Gly  Ala Ala Thr Gly Val  Asp Ala Ile Cys Thr  His Arg Val
    4595             4600             4605

Asp Pro  Lys Ser Pro Gly Val  Asp Arg Glu Gln Leu  Tyr Trp Glu
    4610             4615             4620

Leu Ser  Gln Leu Thr Asn Gly  Ile Lys Glu Leu Gly  Pro Tyr Thr
    4625             4630             4635

Leu Asp  Arg Asn Ser Leu Tyr  Val Asn Gly Phe Thr  His Gln Thr
    4640             4645             4650

Ser Ala  Pro Asn Thr Ser Thr  Pro Gly Thr Ser Thr  Val Asp Leu
    4655             4660             4665

Gly Thr  Ser Gly Thr Pro Ser  Ser Leu Pro Ser Pro  Thr Ser Ala
    4670             4675             4680

Gly Pro  Leu Leu Val Pro Phe  Thr Leu Asn Phe Thr  Ile Thr Asn
    4685             4690             4695

Leu Gln  Tyr Glu Glu Asp Met  His His Pro Gly Ser  Arg Lys Phe
    4700             4705             4710

Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu Leu Gly  Pro Met Phe
    4715             4720             4725

Lys Asn  Thr Ser Val Gly Leu  Leu Tyr Ser Gly Cys  Arg Leu Thr
    4730             4735             4740

Leu Leu  Arg Pro Glu Lys Asn  Gly Ala Ala Thr Gly  Met Asp Ala
    4745             4750             4755

Ile Cys  Thr His Arg Leu Asp  Pro Lys Ser Pro Gly  Leu Asp Arg
    4760             4765             4770

Glu Xaa  Leu Tyr Trp Glu Leu  Ser Xaa Leu Thr Xaa  Xaa Ile Xaa
    4775             4780             4785

Glu Leu  Gly Pro Tyr Xaa Leu  Asp Arg Xaa Ser Leu  Tyr Val Asn
    4790             4795             4800

Gly Phe  Xaa Xaa Xaa Xaa Xaa  Xaa Xaa Xaa Thr Ser  Thr Pro Gly
    4805             4810             4815

Thr Ser  Xaa Val Xaa Leu Xaa  Thr Ser Gly Thr Pro  Xaa Xaa Xaa
    4820             4825             4830

Pro Xaa  Xaa Thr Xaa Xaa Xaa  Pro Leu Leu Xaa Pro  Phe Thr Leu
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       4835                    4840                    4845
Asn Phe  Thr Ile Thr Asn Leu  Xaa Tyr Glu Glu Xaa  Met Xaa Xaa
     4850                    4855                    4860

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
     4865                    4870                    4875

Leu Leu  Lys Pro Leu Phe Arg  Asn Ser Ser Leu Glu  Tyr Leu Tyr
     4880                    4885                    4890

Ser Gly  Cys Arg Leu Ala Ser  Leu Arg Pro Glu Lys  Asp Ser Ser
     4895                    4900                    4905

Ala Met  Ala Val Asp Ala Ile  Cys Thr His Arg Pro  Asp Pro Glu
     4910                    4915                    4920

Asp Leu  Gly Leu Asp Arg Glu  Arg Leu Tyr Trp Glu  Leu Ser Asn
     4925                    4930                    4935

Leu Thr  Asn Gly Ile Gln Glu  Leu Gly Pro Tyr Thr  Leu Asp Arg
     4940                    4945                    4950

Asn Ser  Leu Tyr Val Asn Gly  Phe Thr His Arg Ser  Ser Met Pro
     4955                    4960                    4965

Thr Thr  Ser Thr Pro Gly Thr  Ser Thr Val Asp Val  Gly Thr Ser
     4970                    4975                    4980

Gly Thr  Pro Ser Ser Ser Pro  Ser Pro Thr Thr Ala  Gly Pro Leu
     4985                    4990                    4995

Leu Ile  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Gln Tyr
     5000                    5005                    5010

Gly Glu  Asp Met Gly His Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
     5015                    5020                    5025

Glu Arg  Val Leu Gln Gly Leu  Leu Gly Pro Ile Phe  Lys Asn Thr
     5030                    5035                    5040

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Thr  Ser Leu Arg
     5045                    5050                    5055

Ser Glu  Lys Asp Gly Ala Ala  Thr Gly Val Asp Ala  Ile Cys Ile
     5060                    5065                    5070

His His  Leu Asp Pro Lys Ser  Pro Gly Leu Asn Arg  Glu Arg Leu
     5075                    5080                    5085

Tyr Trp  Glu Leu Ser Gln Leu  Thr Asn Gly Ile Lys  Glu Leu Gly
     5090                    5095                    5100

Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr Val Asn  Gly Phe Thr
     5105                    5110                    5115

His Arg  Thr Ser Val Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr
     5120                    5125                    5130
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Val Asp  Leu Gly Thr Ser Gly  Thr Pro Phe Ser Leu  Pro Ser Pro
5135                 5140                 5145

Ala Thr  Ala Gly Pro Leu Leu  Val Leu Phe Thr Leu  Asn Phe Thr
5150                 5155                 5160

Ile Thr  Asn Leu Lys Tyr Glu  Glu Asp Met His Arg  Pro Gly Ser
5165                 5170                 5175

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Thr  Leu Leu Gly
5180                 5185                 5190

Pro Met  Phe Lys Asn Thr Ser  Val Gly Leu Leu Tyr  Ser Gly Cys
5195                 5200                 5205

Arg Leu  Thr Leu Leu Arg Ser  Glu Lys Asp Gly Ala  Ala Thr Gly
5210                 5215        .        5220

Val Asp  Ala Ile Cys Thr His  Arg Leu Asp Pro Lys  Ser Pro Gly
5225                 5230                 5235

Leu Asp  Arg Glu Xaa Leu Tyr  Trp Glu Leu Ser Xaa  Leu Thr Xaa
5240                 5245                 5250

Xaa Ile  Xaa Glu Leu Gly Pro  Tyr Xaa Leu Asp Arg  Xaa Ser Leu
5255                 5260                 5265

Tyr Val  Asn Gly Phe Xaa Xaa  Xaa Xaa Xaa Xaa Xaa  Xaa Thr Ser
5270                 5275                 5280

Thr Pro  Gly Thr Ser Xaa Val  Xaa Leu Xaa Thr Ser  Gly Thr Pro
5285                 5290                 5295

Xaa Xaa  Xaa Pro Xaa Xaa Thr  Xaa Xaa Xaa Pro Leu  Leu Xaa Pro
5300                 5305                 5310

Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Xaa Tyr  Glu Glu Xaa
5315                 5320                 5325

Met Xaa  Xaa Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
5330                 5335                 5340

Leu Gln  Gly Leu Leu Arg Pro  Val Phe Lys Asn Thr  Ser Val Gly
5345                 5350                 5355

Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu Leu Arg  Pro Lys Lys
5360                 5365                 5370

Asp Gly  Ala Ala Thr Lys Val  Asp Ala Ile Cys Thr  Tyr Arg Pro
5375                 5380                 5385

Asp Pro  Lys Ser Pro Gly Leu  Asp Arg Glu Gln Leu  Tyr Trp Glu
5390                 5395                 5400

Leu Ser  Gln Leu Thr His Ser  Ile Thr Glu Leu Gly  Pro Tyr Thr
5405                 5410                 5415

Gln Asp  Arg Asp Ser Leu Tyr  Val Asn Gly Phe Thr  His Arg Ser
5420                 5425                 5430
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Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu
    5435   5440   5445

Glu Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro
    5450   5455   5460

Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn
    5465   5470   5475

Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
    5480   5485   5490

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe
    5495   5500   5505

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
    5510   5515   5520

Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr
    5525   5530   5535

Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg
    5540   5545   5550

Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr
    5555   5560   5565

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp
    5570   5575   5580

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly
    5585   5590   5595

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro Leu
    5600   5605   5610

Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu
    5615   5620   5625

Asn Phe Thr Ile Thr Asp Leu His Tyr Glu Glu Asn Met Gln His
    5630   5635   5640

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly
    5645   5650   5655

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr
    5660   5665   5670

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala
    5675   5680   5685

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr
    5690   5695   5700

Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln
    5705   5710   5715

Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg

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        5720                    5725                    5730

Asp Ser  Leu Tyr Val Asn Gly  Phe Asn Pro Trp Ser  Ser Val Pro
    5735                    5740                    5745

Thr Thr  Ser Thr Pro Gly Thr  Ser Thr Val His Leu  Ala Thr Ser
    5750                    5755                    5760

Gly Thr  Pro Ser Ser Leu Pro  Gly His Thr Thr Ala  Gly Pro Leu
    5765                    5770                    5775

Leu Val  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Leu  Leu Lys Tyr
    5780                    5785                    5790

Glu Glu  Asp Met His Cys Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    5795                    5800                    5805

Glu Arg  Val Leu Gln Ser Leu  His Gly Pro Met Phe  Lys Asn Thr
    5810                    5815                    5820

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
    5825                    5830                    5835

Ser Glu  Lys Asp Gly Ala Ala  Thr Gly Val Asp Ala  Ile Cys Thr
    5840                    5845                    5850

His Arg  Leu Asp Pro Lys Ser  Pro Gly Leu Asp Arg  Glu Xaa Leu
    5855                    5860                    5865

Tyr Trp  Glu Leu Ser Xaa Leu  Thr Xaa Xaa Ile Xaa  Glu Leu Gly
    5870                    5875                    5880

Pro Tyr  Xaa Leu Asp Arg Xaa  Ser Leu Tyr Val Asn  Gly Phe Xaa
    5885                    5890                    5895

Xaa Xaa  Xaa Xaa Xaa Xaa Xaa  Thr Ser Thr Pro Gly  Thr Ser Xaa
    5900                    5905                    5910

Val Xaa  Leu Xaa Thr Ser Gly  Thr Pro Xaa Xaa Xaa  Pro Xaa Xaa
    5915                    5920                    5925

Thr Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe Thr Leu  Asn Phe Thr
    5930                    5935                    5940

Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met Xaa Xaa  Pro Gly Ser
    5945                    5950                    5955

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Xaa
    5960                    5965                    5970

Pro Xaa  Phe Lys Xaa Thr Ser  Val Gly Xaa Leu Tyr  Ser Gly Cys
    5975                    5980                    5985

Arg Leu  Thr Leu Leu Arg Xaa  Glu Lys Xaa Xaa Ala  Ala Thr Xaa
    5990                    5995                    6000

Val Asp  Xaa Xaa Cys Xaa Xaa  Xaa Xaa Asp Pro Xaa  Xaa Pro Gly
    6005                    6010                    6015
```

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Asn
6020   6025   6030

Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu
6035   6040   6045

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser
6050   6055   6060

Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro
6065   6070   6075

Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val Pro
6080   6085   6090

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
6095   6100   6105

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
6110   6115   6120

Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly
6125   6130   6135

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
6140   6145   6150

Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
6155   6160   6165

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
6170   6175   6180

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
6185   6190   6195

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa
6200   6205   6210

Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu
6215   6220   6225

Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa
6230   6235   6240

Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
6245   6250   6255

Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe
6260   6265   6270

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe
6275   6280   6285

Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr
6290   6295   6300

Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa
6305   6310   6315

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Xaa Cys  Xaa Xaa Xaa Xaa Asp  Pro Xaa Xaa Pro Gly  Leu Asp Arg
    6320                 6325                 6330

Glu Xaa  Leu Tyr Trp Glu Leu  Ser Xaa Leu Thr Xaa  Xaa Ile Xaa
    6335                 6340                 6345

Glu Leu  Gly Pro Tyr Xaa Leu  Asp Arg Xaa Ser Leu  Tyr Val Asn
    6350                 6355                 6360

Gly Phe  His Pro Arg Ser Ser  Val Pro Thr Thr Ser  Thr Pro Gly
    6365                 6370                 6375

Thr Ser  Thr Val His Leu Ala  Thr Ser Gly Thr Pro  Ser Ser Leu
    6380                 6385                 6390

Pro Gly  His Thr Ala Pro Val  Pro Leu Leu Ile Pro  Phe Thr Leu
    6395                 6400                 6405

Asn Phe  Thr Ile Thr Asn Leu  His Tyr Glu Glu Asn  Met Gln His
    6410                 6415                 6420

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
    6425                 6430                 6435

Leu Leu  Gly Pro Met Phe Lys  Asn Thr Ser Val Gly  Leu Leu Tyr
    6440                 6445                 6450

Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro Glu Lys  Asn Gly Ala
    6455                 6460                 6465

Ala Thr  Gly Met Asp Ala Ile  Cys Ser His Arg Leu  Asp Pro Lys
    6470                 6475                 6480

Ser Pro  Gly Leu Asp Arg Glu  Xaa Leu Tyr Trp Glu  Leu Ser Xaa
    6485                 6490                 6495

Leu Thr  Xaa Xaa Ile Xaa Glu  Leu Gly Pro Tyr Xaa  Leu Asp Arg
    6500                 6505                 6510

Xaa Ser  Leu Tyr Val Asn Gly  Phe Xaa Xaa Xaa Xaa  Xaa Xaa Xaa
    6515                 6520                 6525

Xaa Thr  Ser Thr Pro Gly Thr  Ser Xaa Val Xaa Leu  Xaa Thr Ser
    6530                 6535                 6540

Gly Thr  Pro Xaa Xaa Xaa Pro  Xaa Xaa Thr Xaa Xaa  Xaa Pro Leu
    6545                 6550                 6555

Leu Xaa  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Xaa Tyr
    6560                 6565                 6570

Glu Glu  Xaa Met Xaa Xaa Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    6575                 6580                 6585

Glu Arg  Val Leu Gln Gly Leu  Leu Xaa Pro Xaa Phe  Lys Xaa Thr
    6590                 6595                 6600

Ser Val  Gly Xaa Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
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     6605                   6610                   6615

Xaa Glu  Lys Xaa Xaa Ala Ala  Thr Xaa Val Asp Xaa  Xaa Cys Xaa
     6620                   6625                   6630

Xaa Xaa  Xaa Asp Pro Xaa Xaa  Pro Gly Leu Asp Arg  Glu Xaa Leu
     6635                   6640                   6645

Tyr Trp  Glu Leu Ser Xaa Leu  Thr Xaa Xaa Ile Xaa  Glu Leu Gly
     6650                   6655                   6660

Pro Tyr  Xaa Leu Asp Arg Xaa  Ser Leu Tyr Val Asn  Gly Phe Thr
     6665                   6670                   6675

His Gln  Asn Ser Val Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr
     6680                   6685                   6690

Val Tyr  Trp Ala Thr Thr Gly  Thr Pro Ser Ser Phe  Pro Gly His
     6695                   6700                   6705

Thr Glu  Pro Gly Pro Leu Leu  Ile Pro Phe Thr Phe  Asn Phe Thr
     6710                   6715                   6720

Ile Thr  Asn Leu His Tyr Glu  Glu Asn Met Gln His  Pro Gly Ser
     6725                   6730                   6735

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Thr
     6740                   6745                   6750

Pro Leu  Phe Lys Asn Thr Ser  Val Gly Pro Leu Tyr  Ser Gly Cys
     6755                   6760                   6765

Arg Leu  Thr Leu Leu Arg Pro  Glu Lys Gln Glu Ala  Ala Thr Gly
     6770                   6775                   6780

Val Asp  Thr Ile Cys Thr His  Arg Val Asp Pro Ile  Gly Pro Gly
     6785                   6790                   6795

Leu Asp  Arg Glu Xaa Leu Tyr  Trp Glu Leu Ser Xaa  Leu Thr Xaa
     6800                   6805                   6810

Xaa Ile  Xaa Glu Leu Gly Pro  Tyr Xaa Leu Asp Arg  Xaa Ser Leu
     6815                   6820                   6825

Tyr Val  Asn Gly Phe Xaa Xaa  Xaa Xaa Xaa Xaa Xaa  Xaa Thr Ser
     6830                   6835                   6840

Thr Pro  Gly Thr Ser Xaa Val  Xaa Leu Xaa Thr Ser  Gly Thr Pro
     6845                   6850                   6855

Xaa Xaa  Xaa Pro Xaa Xaa Thr  Xaa Xaa Xaa Pro Leu  Leu Xaa Pro
     6860                   6865                   6870

Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Xaa Tyr  Glu Glu Xaa
     6875                   6880                   6885

Met Xaa  Xaa Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
     6890                   6895                   6900
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Leu Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly
6905   6910   6915

Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys
6920   6925   6930

Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa
6935   6940   6945

Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
6950   6955   6960

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
6965   6970   6975

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
6980   6985   6990

Ser Val Pro Thr Thr Ser Ser Pro Gly Thr Ser Thr Val His Leu
6995   7000   7005

Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro
7010   7015   7020

Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
7025   7030   7035

Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
7040   7045   7050

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe
7055   7060   7065

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr
7070   7075   7080

Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala
7085   7090   7095

Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg
7100   7105   7110

Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa
7115   7120   7125

Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn
7130   7135   7140

Gly Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly
7145   7150   7155

Thr Ser Xaa Val Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa
7160   7165   7170

Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu
7175   7180   7185

Asn Phe Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa
7190   7195   7200

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Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
    7205              7210              7215

Leu Leu  Xaa Pro Xaa Phe Lys  Xaa Thr Ser Val Gly  Xaa Leu Tyr
    7220              7225              7230

Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Xaa Glu Lys  Xaa Xaa Ala
    7235              7240              7245

Ala Thr  Xaa Val Asp Xaa Xaa  Cys Xaa Xaa Xaa Xaa  Asp Pro Xaa
    7250              7255              7260

Xaa Pro  Gly Leu Asp Arg Glu  Xaa Leu Tyr Trp Glu  Leu Ser Xaa
    7265              7270              7275

Leu Thr  Xaa Xaa Ile Xaa Glu  Leu Gly Pro Tyr Xaa  Leu Asp Arg
    7280              7285              7290

Xaa Ser  Leu Tyr Val Asn Gly  Phe Thr His Arg Thr  Ser Val Pro
    7295              7300              7305

Thr Thr  Ser Thr Pro Gly Thr  Ser Thr Val His Leu  Ala Thr Ser
    7310              7315              7320

Gly Thr  Pro Ser Ser Leu Pro  Gly His Thr Ala Pro  Val Pro Leu
    7325              7330              7335

Leu Ile  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Gln Tyr
    7340              7345              7350

Glu Glu  Asp Met His Arg Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    7355              7360              7365

Glu Arg  Val Leu Gln Gly Leu  Leu Ser Pro Ile Phe  Lys Asn Ser
    7370              7375              7380

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Thr  Ser Leu Arg
    7385              7390              7395

Pro Glu  Lys Asp Gly Ala Ala  Thr Gly Met Asp Ala  Val Cys Leu
    7400              7405              7410

Tyr His  Pro Asn Pro Lys Arg  Pro Gly Leu Asp Arg  Glu Gln Leu
    7415              7420              7425

Tyr Cys  Glu Leu Ser Gln Leu  Thr His Asn Ile Thr  Glu Leu Gly
    7430              7435              7440

Pro Tyr  Ser Leu Asp Arg Asp  Ser Leu Tyr Val Asn  Gly Phe Thr
    7445              7450              7455

His Gln  Asn Ser Val Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr
    7460              7465              7470

Val Tyr  Trp Ala Thr Thr Gly  Thr Pro Ser Ser Phe  Pro Gly His
    7475              7480              7485

Thr Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe Thr Leu  Asn Phe Thr
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       7490                    7495                    7500
Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met Xaa Xaa  Pro Gly Ser
    7505                    7510                    7515

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Xaa
    7520                    7525                    7530

Pro Xaa  Phe Lys Xaa Thr Ser  Val Gly Xaa Leu Tyr  Ser Gly Cys
    7535                    7540                    7545

Arg Leu  Thr Leu Leu Arg Xaa  Glu Lys Xaa Xaa Ala  Ala Thr Xaa
    7550                    7555                    7560

Val Asp  Xaa Xaa Cys Xaa Xaa  Xaa Xaa Asp Pro Xaa  Xaa Pro Gly
    7565                    7570                    7575

Leu Asp  Arg Glu Xaa Leu Tyr  Trp Glu Leu Ser Xaa  Leu Thr Xaa
    7580                    7585                    7590

Xaa Ile  Xaa Glu Leu Gly Pro  Tyr Xaa Leu Asp Arg  Xaa Ser Leu
    7595                    7600                    7605

Tyr Val  Asn Gly Phe Thr His  Trp Ser Ser Gly Leu  Thr Thr Ser
    7610                    7615                    7620

Thr Pro  Trp Thr Ser Thr Val  Asp Leu Gly Thr Ser  Gly Thr Pro
    7625                    7630                    7635

Ser Pro  Val Pro Ser Pro Thr  Thr Ala Gly Pro Leu  Leu Val Pro
    7640                    7645                    7650

Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Gln Tyr  Glu Glu Asp
    7655                    7660                    7665

Met His  Arg Pro Gly Ser Arg  Lys Phe Asn Ala Thr  Glu Arg Val
    7670                    7675                    7680

Leu Gln  Gly Leu Leu Ser Pro  Ile Phe Lys Asn Thr  Ser Val Gly
    7685                    7690                    7695

Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu Leu Arg  Pro Glu Lys
    7700                    7705                    7710

Gln Glu  Ala Ala Thr Gly Val  Asp Thr Ile Cys Thr  His Arg Val
    7715                    7720                    7725

Asp Pro  Ile Gly Pro Gly Leu  Asp Arg Glu Xaa Leu  Tyr Trp Glu
    7730                    7735                    7740

Leu Ser  Xaa Leu Thr Xaa Xaa  Ile Xaa Glu Leu Gly  Pro Tyr Xaa
    7745                    7750                    7755

Leu Asp  Arg Xaa Ser Leu Tyr  Val Asn Gly Phe Xaa  Xaa Xaa Xaa
    7760                    7765                    7770

Xaa Xaa  Xaa Xaa Thr Ser Thr  Pro Gly Thr Ser Xaa  Val Xaa Leu
    7775                    7780                    7785
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Xaa Thr  Ser Gly Thr Pro Xaa  Xaa Xaa Pro Xaa Xaa  Thr Xaa Xaa
    7790                 7795              7800

Xaa Pro  Leu Leu Xaa Pro Phe  Thr Leu Asn Phe Thr  Ile Thr Asn
    7805                 7810              7815

Leu Xaa  Tyr Glu Glu Xaa Met  Xaa Xaa Pro Gly Ser  Arg Lys Phe
    7820                 7825              7830

Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu Leu Xaa  Pro Xaa Phe
    7835                 7840              7845

Lys Xaa  Thr Ser Val Gly Xaa  Leu Tyr Ser Gly Cys  Arg Leu Thr
    7850                 7855              7860

Leu Leu  Arg Xaa Glu Lys Xaa  Xaa Ala Ala Thr Xaa  Val Asp Xaa
    7865                 7870              7875

Xaa Cys  Xaa Xaa Xaa Xaa Asp  Pro Xaa Xaa Pro Gly  Leu Asp Arg
    7880                 7885              7890

Glu Xaa  Leu Tyr Trp Glu Leu  Ser Xaa Leu Thr Xaa  Xaa Ile Xaa
    7895                 7900              7905

Glu Leu  Gly Pro Tyr Xaa Leu  Asp Arg Xaa Ser Leu  Tyr Val Asn
    7910                 7915              7920

Gly Phe  Thr His Arg Ser Phe  Gly Leu Thr Thr Ser  Thr Pro Trp
    7925                 7930              7935

Thr Ser  Thr Val Asp Leu Gly  Thr Ser Gly Thr Pro  Ser Pro Val
    7940                 7945              7950

Pro Ser  Pro Thr Thr Ala Gly  Pro Leu Leu Val Pro  Phe Thr Leu
    7955                 7960              7965

Asn Phe  Thr Ile Thr Asn Leu  Gln Tyr Glu Glu Asp  Met His Arg
    7970                 7975              7980

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
    7985                 7990              7995

Leu Leu  Thr Pro Leu Phe Arg  Asn Thr Ser Val Ser  Ser Leu Tyr
    8000                 8005              8010

Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro Glu Lys  Asp Gly Ala
    8015                 8020              8025

Ala Thr  Arg Val Asp Ala Val  Cys Thr His Arg Pro  Asp Pro Lys
    8030                 8035              8040

Ser Pro  Gly Leu Asp Arg Glu  Xaa Leu Tyr Trp Glu  Leu Ser Xaa
    8045                 8050              8055

Leu Thr  Xaa Xaa Ile Xaa Glu  Leu Gly Pro Tyr Xaa  Leu Asp Arg
    8060                 8065              8070

Xaa Ser  Leu Tyr Val Asn Gly  Phe Xaa Xaa Xaa Xaa  Xaa Xaa Xaa
    8075                 8080              8085
```

Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu Xaa Thr Ser
    8090   8095   8100

Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa Xaa Pro Leu
    8105   8110   8115

Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Xaa Tyr
    8120   8125   8130

Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe Asn Thr Thr
    8135   8140   8145

Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe Lys Xaa Thr
    8150   8155   8160

Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
    8165   8170   8175

Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa
    8180   8185   8190

Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu
    8195   8200   8205

Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly
    8210   8215   8220

Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Thr
    8225   8230   8235

His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr
    8240   8245   8250

Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr
    8255   8260   8265

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile
    8270   8275   8280

Thr Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg
    8285   8290   8295

Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro
    8300   8305   8310

Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
    8315   8320   8325

Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val
    8330   8335   8340

Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser Pro Gly Leu
    8345   8350   8355

Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa
    8360   8365   8370

Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu Tyr

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      8375                    8380                    8385
Val Asn  Gly Phe Xaa Xaa Xaa  Xaa Xaa Xaa Xaa Xaa  Thr Ser Thr
      8390                    8395                    8400
Pro Gly  Thr Ser Xaa Val Xaa  Leu Xaa Thr Ser Gly  Thr Pro Xaa
      8405                    8410                    8415
Xaa Xaa  Pro Xaa Xaa Thr Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe
      8420                    8425                    8430
Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met
      8435                    8440                    8445
Xaa Xaa  Pro Gly Ser Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu
      8450                    8455                    8460
Gln Gly  Leu Leu Xaa Pro Xaa  Phe Lys Xaa Thr Ser  Val Gly Xaa
      8465                    8470                    8475
Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Xaa  Glu Lys Xaa
      8480                    8485                    8490
Xaa Ala  Ala Thr Xaa Val Asp  Xaa Xaa Cys Xaa Xaa  Xaa Xaa Asp
      8495                    8500                    8505
Pro Xaa  Xaa Pro Gly Leu Asp  Arg Glu Xaa Leu Tyr  Trp Glu Leu
      8510                    8515                    8520
Ser Xaa  Leu Thr Xaa Xaa Ile  Xaa Glu Leu Gly Pro  Tyr Xaa Leu
      8525                    8530                    8535
Asp Arg  Xaa Ser Leu Tyr Val  Asn Gly Phe Thr His  Gln Thr Phe
      8540                    8545                    8550
Ala Pro  Asn Thr Ser Thr Pro  Gly Thr Ser Thr Val  Asp Leu Gly
      8555                    8560                    8565
Thr Ser  Gly Thr Pro Ser Ser  Leu Pro Ser Pro Thr  Ser Ala Gly
      8570                    8575                    8580
Pro Leu  Leu Val Pro Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu
      8585                    8590                    8595
Gln Tyr  Glu Glu Asp Met His  His Pro Gly Ser Arg  Lys Phe Asn
      8600                    8605                    8610
Thr Thr  Glu Arg Val Leu Gln  Gly Leu Leu Gly Pro  Met Phe Lys
      8615                    8620                    8625
Asn Thr  Ser Val Gly Leu Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu
      8630                    8635                    8640
Leu Arg  Pro Glu Lys Asn Gly  Ala Ala Thr Arg Val  Asp Ala Val
      8645                    8650                    8655
Cys Thr  His Arg Pro Asp Pro  Lys Ser Pro Gly Leu  Asp Arg Glu
      8660                    8665                    8670
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Xaa Leu  Tyr Trp Glu Leu Ser  Xaa Leu Thr Xaa Xaa  Ile Xaa Glu
    8675                 8680                 8685

Leu Gly  Pro Tyr Xaa Leu Asp  Arg Xaa Ser Leu Tyr  Val Asn Gly
    8690                 8695                 8700

Phe Xaa  Xaa Xaa Xaa Xaa Xaa  Xaa Xaa Thr Ser Thr  Pro Gly Thr
    8705                 8710                 8715

Ser Xaa  Val Xaa Leu Xaa Thr  Ser Gly Thr Pro Xaa  Xaa Xaa Pro
    8720                 8725                 8730

Xaa Xaa  Thr Xaa Xaa Xaa Pro  Leu Leu Xaa Pro Phe  Thr Leu Asn
    8735                 8740                 8745

Phe Thr  Ile Thr Asn Leu Xaa  Tyr Glu Glu Xaa Met  Xaa Xaa Pro
    8750                 8755                 8760

Gly Ser  Arg Lys Phe Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu
    8765                 8770                 8775

Leu Lys  Pro Leu Phe Lys Ser  Thr Ser Val Gly Pro  Leu Tyr Ser
    8780                 8785                 8790

Gly Cys  Arg Leu Thr Leu Leu  Arg Pro Glu Lys Asp  Gly Val Ala
    8795                 8800                 8805

Thr Arg  Val Asp Ala Ile Cys  Thr His Arg Pro Asp  Pro Lys Ile
    8810                 8815                 8820

Pro Gly  Leu Asp Arg Gln Gln  Leu Tyr Trp Glu Leu  Ser Gln Leu
    8825                 8830                 8835

Thr His  Ser Ile Thr Glu Leu  Gly Pro Tyr Thr Leu  Asp Arg Asp
    8840                 8845                 8850

Ser Leu  Tyr Val Asn Gly Phe  Thr Gln Arg Ser Ser  Val Pro Thr
    8855                 8860                 8865

Thr Ser  Thr Pro Gly Thr Phe  Thr Val Gln Pro Glu  Thr Ser Glu
    8870                 8875                 8880

Thr Pro  Ser Ser Leu Pro Gly  Pro Thr Ala Thr Gly  Pro Val Leu
    8885                 8890                 8895

Leu Pro  Phe Thr Leu Asn Phe  Thr Ile Thr Asn Leu  Gln Tyr Glu
    8900                 8905                 8910

Glu Asp  Met His Arg Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu
    8915                 8920                 8925

Arg Val  Leu Gln Gly Leu Leu  Met Pro Leu Phe Lys  Asn Thr Ser
    8930                 8935                 8940

Val Ser  Ser Leu Tyr Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro
    8945                 8950                 8955

Glu Lys  Asp Gly Ala Ala Thr  Arg Val Asp Ala Val  Cys Thr His
    8960                 8965                 8970
```

```
Arg Pro  Asp Pro Lys Ser Pro  Gly Leu Asp Arg Glu  Arg Leu Tyr
    8975             8980              8985

Trp Lys  Leu Ser Gln Leu Thr  His Gly Ile Thr Glu  Leu Gly Pro
    8990             8995              9000

Tyr Thr  Leu Asp Arg His Ser  Leu Tyr Val Asn Gly  Phe Thr His
    9005             9010              9015

Gln Ser  Ser Met Thr Thr Thr  Arg Thr Pro Asp Thr  Ser Thr Met
    9020             9025              9030

His Leu  Ala Thr Ser Arg Thr  Pro Ala Ser Leu Ser  Gly Pro Thr
    9035             9040              9045

Thr Ala  Ser Pro Leu Leu Val  Leu Phe Thr Ile Asn  Phe Thr Ile
    9050             9055              9060

Thr Asn  Leu Arg Tyr Glu Glu  Asn Met His His Pro  Gly Ser Arg
    9065             9070              9075

Lys Phe  Asn Thr Thr Glu Arg  Val Leu Gln Gly Leu  Leu Arg Pro
    9080             9085              9090

Val Phe  Lys Asn Thr Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg
    9095             9100              9105

Leu Thr  Leu Leu Arg Pro Lys  Lys Asp Gly Ala Ala  Thr Lys Val
    9110             9115              9120

Asp Ala  Ile Cys Thr Tyr Arg  Pro Asp Pro Lys Ser  Pro Gly Leu
    9125             9130              9135

Asp Arg  Glu Gln Leu Tyr Trp  Glu Leu Ser Gln Leu  Thr His Ser
    9140             9145              9150

Ile Thr  Glu Leu Gly Pro Tyr  Thr Gln Asp Arg Asp  Ser Leu Tyr
    9155             9160              9165

Asn Val  Gly Phe Thr Gln Arg  Ser Ser Val Pro Thr  Thr Ser Val
    9170             9175              9180

Pro Gly  Thr Pro Thr Val Asp  Leu Gly Thr Ser Gly  Thr Pro Val
    9185             9190              9195

Ser Lys  Pro Gly Pro Ser Ala  Ala Ser Pro Leu Leu  Val Leu Phe
    9200             9205              9210

Thr Leu  Asn Gly Thr Ile Thr  Asn Leu Arg Tyr Glu  Glu Asn Met
    9215             9220              9225

Gln His  Pro Gly Ser Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu
    9230             9235              9240

Gln Gly  Leu Leu Arg Ser Leu  Phe Lys Ser Thr Ser  Val Gly Pro
    9245             9250              9255

Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Pro  Glu Lys Asp
```

```
     9260                    9265                    9270
Gly Thr  Ala Thr Gly Val Asp  Ala Ile Cys Thr His  His Pro Asp
     9275                    9280                    9285

Pro Lys  Ser Pro Arg Leu Asp  Arg Glu Gln Leu Tyr  Trp Glu Leu
     9290                    9295                    9300

Ser Gln  Leu Thr His Asn Ile  Thr Glu Leu Gly His  Tyr Ala Leu
     9305                    9310                    9315

Asp Asn  Asp Ser Leu Phe Val  His Asn Gly Phe Thr His  Arg Ser Ser
     9320                    9325                    9330

Val Ser  Thr Thr Ser Thr Pro  Gly Thr Pro Thr Val  Tyr Leu Gly
     9335                    9340                    9345

Ala Ser  Lys Thr Pro Ala Ser  Ile Phe Gly Pro Ser  Ala Ala Ser
     9350                    9355                    9360

His Leu  Leu Ile Leu Phe Thr  Leu Asn Phe Thr His  Thr Asn Leu
     9365                    9370                    9375

Arg Tyr  Glu Glu Asn Met Trp  Pro Gly Ser Arg Lys  Phe Asn Thr
     9380                    9385                    9390

Thr Glu  Arg Val Leu Gln Gly  Leu Leu Arg Pro Leu  Phe Lys Asn
     9395                    9400                    9405

Thr Ser  Val Gly Pro Leu Tyr  Ser Gly Ser Arg Lys  Thr Leu Leu
     9410                    9415                    9420

Arg Pro  Glu Lys Asp Gly Glu  Ala Thr Gly Val Asp  Ala Ile Cys
     9425                    9430                    9435

Thr His  Arg Pro Asp Pro Thr  Gly Pro Gly Leu Asp  Arg Glu Gln
     9440                    9445                    9450

Leu Tyr  Leu Glu Leu Ser Gln  Leu Thr His Ser Ile  Thr Glu Leu
     9455                    9460                    9465

Gly Pro  Tyr Thr Leu Asp Arg  Asp Ser Leu Tyr Val  Asn Gly Phe
     9470                    9475                    9480

Thr His  Arg Ser Ser Val Pro  Thr Thr Ser Thr Gly  Val Val Ser
     9485                    9490                    9495

Glu Glu  Pro Phe Thr Leu Asn  Phe Thr Ile Asn Asn  Leu Arg Tyr
     9500                    9505                    9510

Met Ala  Asp Met Gly Gln Pro  Gly Ser Leu Lys Phe  Asn Ile Thr
     9515                    9520                    9525

Asp Asn  Val Met Lys His Leu  Leu Ser Pro Leu Phe  Gln Arg Ser
     9530                    9535                    9540

Ser Leu  Gly Ala Arg Tyr Thr  Gly Cys Arg Val Ile  Ala Leu Arg
     9545                    9550                    9555
```

Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr
    9560   9565   9570

Tyr Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val
    9575   9580   9585

Phe His Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly
    9590   9595   9600

Pro Tyr Ser Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn
    9605   9610   9615

Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr
    9620   9625   9630

Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr
    9635   9640   9645

His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser Asn Leu Gln
    9650   9655   9660

Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr
    9665   9670   9675

Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys Ser
    9680   9685   9690

Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg
    9695   9700   9705

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr
    9710   9715   9720

Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu
    9725   9730   9735

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly
    9740   9745   9750

Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala
    9755   9760   9765

Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His
    9770   9775   9780

Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu
    9785   9790   9795

Tyr

<210> 147

<211> 1422

<212> DNA

<213> Homo sapiens

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<400>  147
gccatggggt accacctgaa gaccctcaca ctcaacttca ccatctccaa tctccagtat        60

tcaccagata tgggcaaggg ctcagctaca ttcaactcca ccgagggggt ccttcagcac       120

ctgctcagac ccttgttcca gaagagcagc atgggcccct tctacttggg ttgccaactg       180

atctccctca ggcctgagaa ggatggggca gccactggtg tggacaccac ctgcacctac       240

caccctgacc ctgtgggccc cgggctggac atacagcagc tttactggga gctgagtcag       300

ctgacccatg gtgtcaccca actgggcttc tatgtcctgg acagggatag cctcttcatc       360

aatggctatg cacccccagaa tttatcaatc cggggcgagt accagataaa tttccacatt       420

gtcaactgga acctcagtaa tccagacccc acatcctcag agtacatcac cctgctgagg       480

gacatccagg acaaggtcac cacactctac aaaggcagtc aactacatga cacattccgc       540

ttctgcctgg tcaccaactt gacgatggac tccgtgttgg tcactgtcaa ggcattgttc       600

tcctccaatt tggaccccag cctggtggag caagtctttc tagataagac cctgaatgcc       660

tcattccatt ggctgggctc cacctaccag ttggtggaca tccatgtgac agaaatggag       720

tcatcagttt atcaaccaac aagcagctcc agcaccagc acttctacct gaatttcacc        780

atcaccaacc taccatattc ccaggacaaa gcccagccag gcaccaccaa ttaccagagg       840

aacaaaagga atattgagga tgcgctcaac caactcttcc gaaacagcag catcaagagt       900

tattttctg actgtcaagt ttcaacattc aggtctgtcc ccaacaggca ccacaccggg        960

gtggactccc tgtgtaactt ctcgccactg gctcggagag tagacagagt tgccatctat      1020

gaggaatttc tgcggatgac ccggaatggt acccagctgc agaacttcac cctggacagg      1080

agcagtgtcc ttgtggatgg gtattctccc aacagaaatg agcccttaac tgggaattct      1140

gaccttccct tctgggctgt catcctcatc ggcttggcag gactcctggg actcatcaca      1200

tgcctgatct gcggtgtcct ggtgaccacc cgccggcgga agaaggaagg agaatacaac      1260

gtccagcaac agtgcccagg ctactaccag tcacacctag acctggagga tctgcaatga      1320

ctggaacttg ccggtgcctg gggtgccttt cccccagcca gggtccaaag aagcttggct      1380

ggggcagaaa taaaccatat tggtcggaaa aaaaaaaaa aa                          1422


<210>  148

<211>  439

<212>  PRT
```

<213> Homo sapiens

<400> 148

Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser
1   5   10   15

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn
            20   25   30

Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys
        35   40   45

Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg
    50   55   60

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr
65   70   75   80

His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp
            85   90   95

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val
            100   105   110

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu
    115   120   125

Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn
    130   135   140

Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr Ile Thr Leu Leu Arg
145   150   155   160

Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln Leu His
            165   170   175

Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met Asp Ser Val
        180   185   190

Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn Leu Asp Pro Ser Leu
    195   200   205

Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn Ala Ser Phe His Trp
    210   215   220

Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His Val Thr Glu Met Glu
225   230   235   240

Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Thr Gln His Phe Tyr
            245   250   255

Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser Gln Asp Lys Ala Gln
        260   265   270

Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg Asn Ile Glu Asp Ala
        275   280   285

```
Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp
    290                 295                 300

Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn Arg His His Thr Gly
305                 310                 315                 320

Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg
                325                 330                 335

Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln
                340                 345                 350

Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr
    355                 360                 365

Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe
    370                 375                 380

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr
385                 390                 395                 400

Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys Lys Glu
                405                 410                 415

Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His
                420                 425                 430

Leu Asp Leu Glu Asp Leu Gln
        435
```

<210> 149

<211> 1799

<212> PRT

<213> Homo sapiens

<400> 149

```
Arg Thr Asp Gly Ile Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala
1               5                   10                  15

Ala His Arg Gly Thr Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr
            20                  25                  30

Ser Pro Ala Ser Pro Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met
        35                  40                  45

Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr Thr Ala Leu Lys Thr
    50                  55                  60

Thr Ser Arg Ala Thr Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly
65                  70                  75                  80

Thr Leu Thr Pro Leu Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu
```

```
                  85              90              95
Thr Glu Met Met Ile Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu
            100             105             110

Thr Thr Ser Ser Leu Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala
        115             120             125

Leu Pro Arg Thr Thr Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr
    130             135             140

Ala Ser Leu Val Ser Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln
145             150             155             160

Thr Leu Asp Val Ser Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val
                165             170             175

Ile His Pro Ala Glu Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn
            180             185             190

Phe Phe His Ser Glu Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His
        195             200             205

Gly Ala Asp Val Ser Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu
    210             215             220

Leu Asp Ala Leu Thr Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser
225             230             235             240

Thr Thr Phe Pro Thr Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg
                245             250             255

Thr Thr Trp Leu Thr His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg
            260             265             270

Thr Ile Pro Asn Phe Ser His His Glu Ser Asp Ala Thr Pro Ser Ile
        275             280             285

Ala Thr Ser Pro Gly Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr
    290             295             300

Val Ser Pro Gly Ala Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser
305             310             315             320

Gly Thr Asp Arg Asn Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly
                325             330             335

Glu Pro Lys Thr Ile Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr
            340             345             350

Ser Ser Ala Ile Pro Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu
        355             360             365

Val Thr Ser Met Val Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn
    370             375             380

Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu
385             390             395             400
```

```
Val Thr His Pro Ala Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser
            405             410             415

Ile Phe Phe His Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser
            420             425             430

His Gly Ala Glu Ser Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr
            435             440             445

Glu Val Pro Gly Val Val Thr Pro Leu Val Thr Thr Ser Ser Arg Ala Val
    450             455             460

Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu
465             470             475             480

Thr Thr Pro Ser Met Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala
            485             490             495

Ile Pro Thr Pro Thr Val Ser Pro Gly Val Pro Gly Val Val Thr Ser
            500             505             510

Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu
    515             520             525

Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser
    530             535             540

His Gly Thr Glu Ala Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val
545             550             555             560

Pro Gly Met Val Thr Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser
            565             570             575

Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr
            580             585             590

Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro
            595             600             605

Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser
    610             615             620

Ser Ser Gly Val Asn Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro
625             630             635             640

Gly Glu Leu Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu
            645             650             655

Ala Ser Ser Ala Val Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly
            660             665             670

Val Val Thr Pro Leu Val Thr Ser Arg Ala Val Thr Ser Thr Thr
            675             680             685

Ile Pro Ile Leu Thr Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser
    690             695             700

Met Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val
705             710             715             720
```

```
Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg
            725             730             735

Ala Val Thr Ser Thr Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu
            740             745             750

Pro Glu Thr Thr Thr Ser Leu Val Thr His Ser Glu Ala Lys Met Ile
        755             760             765

Ser Ala Ile Pro Thr Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val
    770             775             780

Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn
785             790             795             800

Leu Thr Val Ala Ser Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala
            805             810             815

His Pro Gly Thr Glu Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser
            820             825             830

Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu
        835             840             845

Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser Arg Phe Ser Glu His Ser Glu
    850             855             860

Leu Asp Thr Met Pro Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser
865             870             875             880

Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr
            885             890             895

Ser Leu Val Thr Ser Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr
        900             905             910

Val Pro Glu Ser Pro His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr
        915             920             925

His Pro Ala Val Thr Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr
    930             935             940

Ser His Ser Glu Pro Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly
945             950             955             960

Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val
            965             970             975

Pro Asp Met Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser
            980             985             990

Ile Thr Ile Pro Thr Leu Thr Leu  Ser Ser Gly Glu Pro  Glu Thr Thr
        995             1000            1005

Thr Ser  Phe Ile Thr Tyr Ser  Glu Thr His Thr Ser  Ser Ala Ile
    1010            1015            1020

Pro Thr  Leu Pro Val Ser Pro  Gly Ala Ser Lys Met  Leu Thr Ser
```

```
         1025                    1030                    1035
Leu Val  Ile Ser Ser Gly Thr  Asp Ser Thr Thr  Phe Pro Thr
         1040                    1045                    1050
Leu Thr  Glu Thr Pro Tyr Glu  Pro Glu Thr Thr Ala  Ile Gln Leu
         1055                    1060                    1065
Ile His  Pro Ala Glu Thr Asn  Thr Met Val Pro Arg  Thr Thr Pro
         1070                    1075                    1080
Lys Phe  Ser His Ser Lys Ser  Asp Thr Thr Leu Pro  Val Ala Ile
         1085                    1090                    1095
Thr Ser  Pro Gly Pro Glu Ala  Ser Ser Ala Val Ser  Thr Thr Thr
         1100                    1105                    1110
Ile Ser  Pro Asp Met Ser Asp  Leu Val Thr Ser Leu  Val Pro Ser
         1115                    1120                    1125
Ser Gly  Thr Asp Thr Ser Thr  Thr Phe Pro Thr Leu  Ser Glu Thr
         1130                    1135                    1140
Pro Tyr  Glu Pro Glu Thr Thr  Ala Thr Trp Leu Thr  His Pro Ala
         1145                    1150                    1155
Glu Thr  Ser Thr Thr Val Ser  Gly Thr Ile Pro Asn  Phe Ser His
         1160                    1165                    1170
Arg Gly  Ser Asp Thr Ala Pro  Ser Met Val Thr Ser  Pro Gly Val
         1175                    1180                    1185
Asp Thr  Arg Ser Gly Val Pro  Thr Thr Thr Ile Pro  Pro Ser Ile
         1190                    1195                    1200
Pro Gly  Val Val Thr Ser Gln  Val Thr Ser Ser Ala  Thr Asp Thr
         1205                    1210                    1215
Ser Thr  Ala Ile Pro Thr Leu  Thr Pro Ser Pro Gly  Glu Pro Glu
         1220                    1225                    1230
Thr Thr  Ala Ser Ser Ala Thr  His Pro Gly Thr Gln  Thr Gly Phe
         1235                    1240                    1245
Thr Val  Pro Ile Arg Thr Val  Pro Ser Ser Glu Pro  Asp Thr Met
         1250                    1255                    1260
Ala Ser  Trp Val Thr His Pro  Pro Gln Thr Ser Thr  Pro Val Ser
         1265                    1270                    1275
Arg Thr  Thr Ser Ser Phe Ser  His Ser Ser Pro Asp  Ala Thr Pro
         1280                    1285                    1290
Val Met  Ala Thr Ser Pro Arg  Thr Glu Ala Ser Ser  Ala Val Leu
         1295                    1300                    1305
Thr Thr  Ile Ser Pro Gly Ala  Pro Glu Met Val Thr  Ser Gln Ile
         1310                    1315                    1320
```

Thr Ser Ser Gly Ala Ala Thr Ser Thr Thr Val Pro Thr Leu Thr
    1325   1330   1335

His Ser Pro Gly Met Pro Glu Thr Thr Ala Leu Leu Ser Thr His
    1340   1345   1350

Pro Arg Thr Glu Thr Ser Lys Thr Phe Pro Ala Ser Thr Val Phe
    1355   1360   1365

Pro Gln Val Ser Glu Thr Thr Ala Ser Leu Thr Ile Arg Pro Gly
    1370   1375   1380

Ala Glu Thr Ser Thr Ala Leu Pro Thr Gln Thr Thr Ser Ser Leu
    1385   1390   1395

Phe Thr Leu Leu Val Thr Gly Thr Ser Arg Val Asp Leu Ser Pro
    1400   1405   1410

Thr Ala Ser Pro Gly Val Ser Ala Lys Thr Ala Pro Leu Ser Thr
    1415   1420   1425

His Pro Gly Thr Glu Thr Ser Thr Met Ile Pro Thr Ser Thr Leu
    1430   1435   1440

Ser Leu Gly Leu Leu Glu Thr Thr Gly Leu Leu Ala Thr Ser Ser
    1445   1450   1455

Ser Ala Glu Thr Ser Thr Ser Thr Leu Thr Leu Thr Val Ser Pro
    1460   1465   1470

Ala Val Ser Gly Leu Ser Ser Ala Ser Ile Thr Thr Asp Lys Pro
    1475   1480   1485

Gln Thr Val Thr Ser Trp Asn Thr Glu Thr Ser Pro Ser Val Thr
    1490   1495   1500

Ser Val Gly Pro Pro Glu Phe Ser Arg Thr Val Thr Gly Thr Thr
    1505   1510   1515

Met Thr Leu Ile Pro Ser Glu Met Pro Thr Pro Pro Lys Thr Ser
    1520   1525   1530

His Gly Glu Gly Val Ser Pro Thr Thr Ile Leu Arg Thr Thr Met
    1535   1540   1545

Val Glu Ala Thr Asn Leu Ala Thr Thr Gly Ser Ser Pro Thr Val
    1550   1555   1560

Ala Lys Thr Thr Thr Thr Phe Asn Thr Leu Ala Gly Ser Leu Phe
    1565   1570   1575

Thr Pro Leu Thr Thr Pro Gly Met Ser Thr Leu Ala Ser Glu Ser
    1580   1585   1590

Val Thr Ser Arg Thr Ser Tyr Asn His Arg Ser Trp Ile Ser Thr
    1595   1600   1605

Thr Ser Ser Tyr Asn Arg Arg Tyr Trp Thr Pro Ala Thr Ser Thr
    1610   1615   1620

```
Pro Val  Thr Ser Thr Phe Ser  Pro Gly Ile Ser Thr  Ser Ser Ile
    1625                1630                1635

Pro Ser  Ser Thr Ala Ala Thr  Val Pro Phe Met Val  Pro Phe Thr
    1640                1645                1650

Leu Asn  Phe Thr Ile Thr Asn  Leu Gln Tyr Glu Glu  Asp Met Arg
    1655                1660                1665

His Pro  Gly Ser Arg Lys Phe  Asn Ala Thr Glu Arg  Glu Leu Gln
    1670                1675                1680

Gly Leu  Leu Lys Pro Leu Phe  Arg Asn Ser Ser Leu  Glu Tyr Leu
    1685                1690                1695

Tyr Ser  Gly Cys Arg Leu Ala  Ser Leu Arg Pro Glu  Lys Asp Ser
    1700                1705                1710

Ser Ala  Met Ala Val Asp Ala  Ile Cys Thr His Arg  Pro Asp Pro
    1715                1720                1725

Glu Asp  Leu Gly Leu Asp Arg  Glu Arg Leu Tyr Trp  Glu Leu Ser
    1730                1735                1740

Asn Leu  Thr Asn Gly Ile Gln  Glu Leu Gly Pro Tyr  Thr Leu Asp
    1745                1750                1755

Arg Asn  Ser Leu Tyr Val Asn  Gly Phe Thr His Arg  Ser Ser Met
    1760                1765                1770

Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr Val Asp  Val Gly Thr
    1775                1780                1785

Ser Gly  Thr Pro Ser Ser Ser  Pro Ser Pro Thr
    1790                1795
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<210> 150

<211> 156

<212> PRT

<213> Homo sapiens

<400> 150

```
Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
1            5                10               15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
             20               25               30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
        35               40               45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
```

```
        50                      55                      60
Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
65                      70                      75                      80

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
                    85                      90                      95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
                100                     105                     110

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
            115                     120                     125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
        130                     135                     140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Lys Leu Thr
145                     150                     155
```

<210> 151

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(507)


```
<400> 151
atg aga gga tcg cat cac cat cac cat cac gga tcc atg ggc cac aca       48
Met Arg Gly Ser His His His His His His Gly Ser Met Gly His Thr
1               5                      10                      15

gag cct ggc cct ctc ctg ata cca ttc act ttc aac ttt acc atc acc      96
Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
            20                      25                      30

aac ctg cat tat gag gaa aac atg caa cac cct ggt tcc agg aag ttc     144
Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
        35                      40                      45

aac acc acg gag agg gtt ctg cag ggt ctg ctc aag ccc ttg ttc aag     192
Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
    50                      55                      60

aac acc agt gtt ggc cct ctg tac tct ggc tgc aga ctg acc ttg ctc     240
Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
65                      70                      75                      80
```

```
aga cct gag aag cat gag gca gcc act gga gtg gac acc atc tgt acc        288
Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
                85                  90                  95

cac cgc gtt gat ccc atc gga cct gga ctg gac aga gag cgg cta tac        336
His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
            100                 105                 110

tgg gag ctg agc cag ctg acc aac agc atc aca gag ctg gga ccc tac        384
Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
        115                 120                 125

acc ctg gac agg gac agt ctc tat gtc aat ggc ttc aac cct cgg agc        432
Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
        130                 135                 140

tct gtg cca acc acc agc act cct ggg acc tcc aca gtg cac ctg gca        480
Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
145                 150                 155                 160

acc tct ggg act cca tcc tcc ctg cct                                     507
Thr Ser Gly Thr Pro Ser Ser Leu Pro
                165
```

<210> 152

<211> 169

<212> PRT

<213> Homo sapiens

<400> 152

```
Met Arg Gly Ser His His His His His Gly Ser Met Gly His Thr
1               5                   10                  15

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
                20                  25                  30

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
            35                  40                  45

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
        50                  55                  60

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
65                  70                  75                  80

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
                85                  90                  95
```

```
His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
            100                 105                 110

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
        115                 120                 125

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
    130                 135                 140

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
145                 150                 155                 160

Thr Ser Gly Thr Pro Ser Ser Leu Pro
                165
```

<210> 153

<211> 507

<212> DNA

<213> Homo sapiens

<400> 153

```
aggcagggag gatggagtcc cagaggttgc caggtgcact gtggaggtcc caggagtgct    60

ggtggttggc acagagctcc gagggttgaa gccattgaca tagagactgt ccctgtccag   120

ggtgtagggt cccagctctg tgatgctgtt ggtcagctgg ctcagctccc agtatagccg   180

ctctctgtcc agtccaggtc cgatgggatc aacgcggtgg gtacagatgg tgtccactcc   240

agtggctgcc tcatgcttct caggtctgag caaggtcagt ctgcagccag agtacagagg   300

gccaacactg gtgttcttga acaagggctt gagcagaccc tgcagaaccc tctccgtggt   360

gttgaacttc ctggaaccag ggtgttgcat gttttcctca taatgcaggt tggtgatggt   420

aaagttgaaa gtgaatggta tcaggagagg gccaggctct gtgtggccca tggatccgtg   480

atggtgatgg tgatgcgatc ctctcat                                       507
```

<210> 154

<211> 9

<212> PRT

<213> Homo sapiens

<400> 154

Arg Leu Tyr Trp Glu Leu Ser Gln Leu
1   5

<210> 155

<211> 9

<212> PRT

<213> Homo sapiens

<400> 155

Thr Leu Asp Arg Asp Ser Leu Tyr Val
1   5

<210> 156

<211> 9

<212> PRT

<213> Homo sapiens

<400> 156

Val Leu Gln Gly Leu Leu Lys Pro Leu
1   5

<210> 157

<211> 9

<212> PRT

<213> Homo sapiens

<400> 157

Gln Leu Thr Asn Ser Ile Thr Glu Leu
1   5

<210> 158

<211> 780

<212> PRT

<213> Homo sapiens

<400> 158

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg
        35   40   45

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu
    50   55   60

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr
65   70   75   80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr
                85   90   95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr
            100   105   110

Thr Leu Ser Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
        115   120   125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly
    130   135   140

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro
145   150   155   160

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
                165   170   175

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu
            180   185   190

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val
        195   200   205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
    210   215   220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp
225   230   235   240

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser
                245   250   255

Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg
            260   265   270

```
Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr
        275             280             285

Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr
    290             295             300

Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Gly Pro Leu Leu Val
305             310             315                         320

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp
            325             330             335

Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu
            340             345             350

Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu
        355             360             365

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala
    370             375             380

Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser
385             390             395                         400

Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr
            405             410             415

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu
            420             425             430

Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr
        435             440             445

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser
    450             455             460

Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu
465             470             475                         480

Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro
            485             490             495

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu
        500             505             510

Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys
        515             520             525

Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val
    530             535             540

Asp Ala Ile Cys Thr His His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp
545             550             555                         560

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys
            565             570             575

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
            580             585             590
```

```
Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser
        595             600             605

Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr
        610             615             620

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
625             630             635             640

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
            645             650             655

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys
        660             665             670

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
        675             680             685

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr
    690             695             700

His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr
705             710             715             720

Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr
            725             730             735

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr
        740             745             750

Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly
        755             760             765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr
    770             775             780

<210>  159

<211>  780

<212>  PRT

<213>  Homo sapiens


<400>  159

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5               10              15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
            20              25              30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys
        35              40              45

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
```

```
        50                    55                    60

Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser
65                      70                  75                  80

His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr
                85                  90                  95

Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr
            100                 105                 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser
        115                 120                 125

Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly
    130                 135                 140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro
145                 150                 155                 160

Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
                165                 170                 175

Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
            180                 185                 190

Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val
        195                 200                 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys
    210                 215                 220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn
225                 230                 235                 240

Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser
                245                 250                 255

Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg
            260                 265                 270

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr
        275                 280                 285

Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr
    290                 295                 300

Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro
305                 310                 315                 320

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met
                325                 330                 335

His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu Gln
            340                 345                 350

Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr
        355                 360                 365
```

```
Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala
    370                 375             380

Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro
385                 390             395                     400

Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His
                405             410             415

Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr
            420             425             430

Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro
        435             440             445

Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe
    450             455             460

Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn
465             470             475             480

Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly
                485             490             495

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys
            500             505             510

Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
    515             520             525

Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp
    530             535             540

Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg
545             550             555             560

Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu
            565             570             575

Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
            580             585             590

Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr
    595             600             605

Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr
    610             615             620

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
625             630             635             640

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
            645             650             655

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys
        660             665             670

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
    675             680             685
```

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
690   695   700

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
705   710   715   720

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
                725   730   735

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser
                740   745   750

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
        755   760   765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr
    770   775   780

<210>   160

<211>   624

<212>   PRT

<213>   Homo sapiens

<400>   160

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe
                20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys
        35   40   45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
    50   55   60

Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr
65   70   75   80

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr
                85   90   95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
                100   105   110

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser
        115   120   125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala
    130   135   140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro

```
145                    150                    155                        160
Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asp Leu His Tyr
                 165                    170                    175

Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
             180                    185                    190

Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val
         195                    200                    205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
     210                    215                    220

His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp
225                    230                    235                    240

Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser
                 245                    250                    255

Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg
             260                    265                    270

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr
         275                    280                    285

Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr
     290                    295                    300

Pro Ala Ser Leu Pro His Thr Ala Pro Gly Pro Leu Leu Val Pro
305                    310                    315                    320

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met
                 325                    330                    335

Arg His Pro Gly Ser Arg Lys Phe Ser Thr Thr Glu Arg Val Leu Gln
             340                    345                    350

Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr
         355                    360                    365

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala
     370                    375                    380

Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro
385                    390                    395                    400

Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His
                 405                    410                    415

Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr
             420                    425                    430

Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro
         435                    440                    445

Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu
     450                    455                    460
```

```
Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn
465                 470                 475                 480

Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly
                485                 490                 495

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg
            500                 505                 510

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg
        515                 520                 525

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp
    530                 535                 540

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg
545                 550                 555                 560

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu
                565                 570                 575

Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe
            580                 585                 590

Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala
        595                 600                 605

Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr
    610                 615                 620
```

<210> 161

<211> 468

<212> PRT

<213> Homo sapiens

<400> 161

```
Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys
        35                  40                  45

Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu
    50                  55                  60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr
65                  70                  75                  80

His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr
                85                  90                  95
```

```
Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr
        100                 105                 110
Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser
        115                 120                 125
Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala
    130                 135                 140
Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro
145                 150                 155                 160
Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr
                165                 170                 175
Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu
        180                 185                 190
Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val
        195                 200                 205
Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys
    210                 215                 220
Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp
225                 230                 235                 240
Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser
                245                 250                 255
Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg
        260                 265                 270
Asp Ser Leu Tyr Asn Val Gly Phe Thr Gln Arg Ser Ser Val Pro Thr
        275                 280                 285
Thr Ser Val Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr
    290                 295                 300
Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val Leu
305                 310                 315                 320
Phe Thr Leu Asn Gly Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met
                325                 330                 335
Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
        340                 345                 350
Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr
        355                 360                 365
Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala
    370                 375                 380
Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro
385                 390                 395                 400
Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His
```

```
                    405              410               415
Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu Phe
            420              425              430
Val Asn Gly Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr Pro
        435              440              445
Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser Ile
    450              455              460
Phe Gly Pro Ser
465
```

<210> 162

<211> 11721

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(11721)

<223> any x = any amino acid

<400> 162

```
Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr
1               5               10               15
Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro
            20              25              30
Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr
        35              40              45
Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr
    50              55              60
Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu
65              70              75              80
Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile
            85              90              95
Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu
        100             105             110
Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr
    115             120             125
```

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser
    130   135   140

Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser
145   150   155   160

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu
                165   170   175

Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu
                180   185   190

Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser
    195   200   205

Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr
    210   215   220

Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr
225   230   235   240

Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr
                245   250   255

His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe
                260   265   270

Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly
    275   280   285

Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala
    290   295   300

Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn
305   310   315   320

Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile
                325   330   335

Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro
    340   345   350

Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val
    355   360   365

Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn
    370   375   380

Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala
385   390   395   400

Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser
                405   410   415

Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser
    420   425   430

Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val

```
            435                   440                   445

Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile
    450               455               460

Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met
465               470               475                   480

Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr
            485               490               495

Val Ser Pro Gly Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser
        500               505               510

Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly
        515               520               525

Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala
        530               535               540

Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr
545               550               555               560

Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr
            565               570               575

Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr
            580               585               590

Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu
        595               600               605

Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn
        610               615               620

Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr
625               630               635               640

Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val
            645               650               655

Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu
            660               665               670

Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr
            675               680               685

Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His
        690               695               700

Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro
705               710               715               720

Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr
            725               730               735

Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr
            740               745               750
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Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr
        755                 760                 765

Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr
    770                 775                 780

Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser
785                 790                 795                 800

Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu
                805                 810                 815

Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe
            820                 825                 830

Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu
        835                 840                 845

Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro
    850                 855                 860

Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr
865                 870                 875                 880

Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser
            885                 890                 895

Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro
        900                 905                 910

His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr
    915                 920                 925

Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro
    930                 935                 940

Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser
945                 950                 955                 960

Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr
            965                 970                 975

Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr
        980                 985                 990

Leu Thr Leu Ser Ser Gly Glu Pro  Glu Thr Thr Thr Ser  Phe Ile Thr
        995                 1000                1005

Tyr Ser  Glu Thr His Thr Ser  Ser Ala Ile Pro Thr  Leu Pro Val
    1010            1015                1020

Ser Pro  Gly Ala Ser Lys Met  Leu Thr Ser Leu Val  Ile Ser Ser
    1025            1030                1035

Gly Thr  Asp Ser Thr Thr Thr  Phe Pro Thr Leu Thr  Glu Thr Pro
    1040            1045                1050

Tyr Glu  Pro Glu Thr Thr Ala  Ile Gln Leu Ile His  Pro Ala Glu
    1055            1060                1065
```

Thr Asn Thr Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser
   1070   1075   1080

Lys Ser Asp Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro
   1085   1090   1095

Glu Ala Ser Ser Ala Val Ser Thr Thr Thr Ile Ser Pro Asp Met
   1100   1105   1110

Ser Asp Leu Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr
   1115   1120   1125

Ser Thr Thr Phe Pro Thr Leu Ser Glu Thr Pro Tyr Glu Pro Glu
   1130   1135   1140

Thr Thr Ala Thr Trp Leu Thr His Pro Ala Glu Thr Ser Thr Thr
   1145   1150   1155

Val Ser Gly Thr Ile Pro Asn Phe Ser His Arg Gly Ser Asp Thr
   1160   1165   1170

Ala Pro Ser Met Val Thr Ser Pro Gly Val Asp Thr Arg Ser Gly
   1175   1180   1185

Val Pro Thr Thr Thr Ile Pro Pro Ser Ile Pro Gly Val Val Thr
   1190   1195   1200

Ser Gln Val Thr Ser Ser Ala Thr Asp Thr Ser Thr Ala Ile Pro
   1205   1210   1215

Thr Leu Thr Pro Ser Pro Gly Glu Pro Glu Thr Thr Ala Ser Ser
   1220   1225   1230

Ala Thr His Pro Gly Thr Gln Thr Gly Phe Thr Val Pro Ile Arg
   1235   1240   1245

Thr Val Pro Ser Ser Glu Pro Asp Thr Met Ala Ser Trp Val Thr
   1250   1255   1260

His Pro Pro Gln Thr Ser Thr Pro Val Ser Arg Thr Thr Ser Ser
   1265   1270   1275

Phe Ser His Ser Ser Pro Asp Ala Thr Pro Val Met Ala Thr Ser
   1280   1285   1290

Pro Arg Thr Glu Ala Ser Ser Ala Val Leu Thr Thr Ile Ser Pro
   1295   1300   1305

Gly Ala Pro Glu Met Val Thr Ser Gln Ile Thr Ser Ser Gly Ala
   1310   1315   1320

Ala Thr Ser Thr Thr Val Pro Thr Leu Thr His Ser Pro Gly Met
   1325   1330   1335

Pro Glu Thr Thr Ala Leu Leu Ser Thr His Pro Arg Thr Glu Thr
   1340   1345   1350

Ser Lys Thr Phe Pro Ala Ser Thr Val Phe Pro Gln Val Ser Glu

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          1355                    1360                   1365
Thr Thr  Ala Ser Leu Thr Ile  Arg Pro Gly Ala Glu  Thr Ser Thr
     1370                   1375                   1380
Ala Leu  Pro Thr Gln Thr Thr  Ser Ser Leu Phe Thr  Leu Leu Val
     1385                   1390                   1395
Thr Gly  Thr Ser Arg Val Asp  Leu Ser Pro Thr Ala  Ser Pro Gly
     1400                   1405                   1410
Val Ser  Ala Lys Thr Ala Pro  Leu Ser Thr His Pro  Gly Thr Glu
     1415                   1420                   1425
Thr Ser  Thr Met Ile Pro Thr  Ser Thr Leu Ser Leu  Gly Leu Leu
     1430                   1435                   1440
Glu Thr  Thr Gly Leu Leu Ala  Thr Ser Ser Ser Ala  Glu Thr Ser
     1445                   1450                   1455
Thr Ser  Thr Leu Thr Leu Thr  Val Ser Pro Ala Val  Ser Gly Leu
     1460                   1465                   1470
Ser Ser  Ala Ser Ile Thr Thr  Asp Lys Pro Gln Thr  Val Thr Ser
     1475                   1480                   1485
Trp Asn  Thr Glu Thr Ser Pro  Ser Val Thr Ser Val  Gly Pro Pro
     1490                   1495                   1500
Glu Phe  Ser Arg Thr Val Thr  Gly Thr Thr Met Thr  Leu Ile Pro
     1505                   1510                   1515
Ser Glu  Met Pro Thr Pro Pro  Lys Thr Ser His Gly  Glu Gly Val
     1520                   1525                   1530
Ser Pro  Thr Thr Ile Leu Arg  Thr Thr Met Val Glu  Ala Thr Asn
     1535                   1540                   1545
Leu Ala  Thr Thr Gly Ser Ser  Pro Thr Val Ala Lys  Thr Thr Thr
     1550                   1555                   1560
Thr Phe  Asn Thr Leu Ala Gly  Ser Leu Phe Thr Pro  Leu Thr Thr
     1565                   1570                   1575
Pro Gly  Met Ser Thr Leu Ala  Ser Glu Ser Val Thr  Ser Arg Thr
     1580                   1585                   1590
Ser Tyr  Asn His Arg Ser Trp  Ile Ser Thr Thr Ser  Ser Tyr Asn
     1595                   1600                   1605
Arg Arg  Tyr Trp Thr Pro Ala  Thr Ser Thr Pro Val  Thr Ser Thr
     1610                   1615                   1620
Phe Ser  Pro Gly Ile Ser Thr  Ser Ser Ile Pro Ser  Ser Thr Ala
     1625                   1630                   1635
Ala Thr  Val Pro Phe Met Val  Pro Phe Thr Leu Asn  Phe Thr Ile
     1640                   1645                   1650
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Thr Asn  Leu Gln Tyr Glu Glu  Asp Met Arg His Pro  Gly Ser Arg
    1655             1660             1665

Lys Phe  Asn Ala Thr Glu Arg  Glu Leu Gln Gly Leu  Leu Lys Pro
    1670             1675             1680

Leu Phe  Arg Asn Ser Ser Leu  Glu Tyr Leu Tyr Ser  Gly Cys Arg
    1685             1690             1695

Leu Ala  Ser Leu Arg Pro Glu  Lys Asp Ser Ser Ala  Met Ala Val
    1700             1705             1710

Asp Ala  Ile Cys Thr His Arg  Pro Asp Pro Glu Asp  Leu Gly Leu
    1715             1720             1725

Asp Arg  Glu Arg Leu Tyr Trp  Glu Leu Ser Asn Leu  Thr Asn Gly
    1730             1735             1740

Ile Gln  Glu Leu Gly Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr
    1745             1750             1755

Val Asn  Gly Phe Thr His Arg  Ser Ser Met Pro Thr  Thr Ser Thr
    1760             1765             1770

Pro Gly  Thr Ser Thr Val Asp  Val Gly Thr Ser Gly  Thr Pro Ser
    1775             1780             1785

Ser Ser  Pro Ser Pro Thr Ala  Ala Gly Pro Leu Leu  Met Pro Phe
    1790             1795             1800

Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Gln Tyr Glu  Glu Asp Met
    1805             1810             1815

Arg Arg  Thr Gly Ser Arg Lys  Phe Asn Thr Met Glu  Ser Val Leu
    1820             1825             1830

Gln Gly  Leu Leu Lys Pro Leu  Phe Lys Asn Thr Ser  Val Gly Pro
    1835             1840             1845

Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Pro  Glu Lys Asp
    1850             1855             1860

Gly Ala  Ala Thr Gly Val Asp  Ala Ile Cys Thr His  Arg Leu Asp
    1865             1870             1875

Pro Lys  Ser Pro Gly Leu Asn  Arg Glu Gln Leu Tyr  Trp Glu Leu
    1880             1885             1890

Ser Lys  Leu Thr Asn Asp Ile  Glu Glu Leu Gly Pro  Tyr Thr Leu
    1895             1900             1905

Asp Arg  Asn Ser Leu Tyr Val  Asn Gly Phe Thr His  Gln Ser Ser
    1910             1915             1920

Val Ser  Thr Thr Ser Thr Pro  Gly Thr Ser Thr Val  Asp Leu Arg
    1925             1930             1935

Thr Ser  Gly Thr Pro Ser Ser  Leu Ser Ser Pro Thr  Ile Met Ala
    1940             1945             1950
```

Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
    1955   1960   1965

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys
    1970   1975   1980

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile
    1985   1990   1995

Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu
    2000   2005   2010

Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp
    2015   2020   2025

Ala Ile Cys Ile His His Leu Asp Pro Lys Ser Pro Gly Leu Asn
    2030   2035   2040

Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile
    2045   2050   2055

Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val
    2060   2065   2070

Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr Pro
    2075   2080   2085

Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser
    2090   2095   2100

Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr
    2105   2110   2115

Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His
    2120   2125   2130

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln
    2135   2140   2145

Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu
    2150   2155   2160

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly
    2165   2170   2175

Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro
    2180   2185   2190

Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser
    2195   2200   2205

Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
    2210   2215   2220

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val
    2225   2230   2235

Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser

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        2240                    2245                   2250

Gly Thr  Pro Ser Ser Leu Pro  Ser Pro Thr Ala Ala  Gly Pro Leu
        2255                   2260                  2265

Leu Val  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Gln Tyr
        2270                   2275                  2280

Glu Glu  Asp Met His His Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
        2285                   2290                  2295

Glu Arg  Val Leu Gln Gly Leu  Leu Gly Pro Met Phe  Lys Asn Thr
        2300                   2305                  2310

Ser Val  Gly Leu Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
        2315                   2320                  2325

Ser Glu  Lys Asp Gly Ala Ala  Thr Gly Val Asp Ala  Ile Cys Thr
        2330                   2335                  2340

His Arg  Leu Asp Pro Lys Ser  Pro Gly Val Asp Arg  Glu Gln Leu
        2345                   2350                  2355

Tyr Trp  Glu Leu Ser Gln Leu  Thr Asn Gly Ile Lys  Glu Leu Gly
        2360                   2365                  2370

Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr Val Asn  Gly Phe Thr
        2375                   2380                  2385

His Gln  Thr Ser Ala Pro Asn  Thr Ser Thr Pro Gly  Thr Ser Thr
        2390                   2395                  2400

Val Asp  Leu Gly Thr Ser Gly  Thr Pro Ser Ser Leu  Pro Ser Pro
        2405                   2410                  2415

Thr Ser  Ala Gly Pro Leu Leu  Val Pro Phe Thr Leu  Asn Phe Thr
        2420                   2425                  2430

Ile Thr  Asn Leu Gln Tyr Glu  Glu Asp Met Arg His  Pro Gly Ser
        2435                   2440                  2445

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Lys
        2450                   2455                  2460

Pro Leu  Phe Lys Ser Thr Ser  Val Gly Pro Leu Tyr  Ser Gly Cys
        2465                   2470                  2475

Arg Leu  Thr Leu Leu Arg Ser  Glu Lys Asp Gly Ala  Ala Thr Gly
        2480                   2485                  2490

Val Asp  Ala Ile Cys Thr His  Arg Leu Asp Pro Lys  Ser Pro Gly
        2495                   2500                  2505

Val Asp  Arg Glu Gln Leu Tyr  Trp Glu Leu Ser Gln  Leu Thr Asn
        2510                   2515                  2520

Gly Ile  Lys Glu Leu Gly Pro  Tyr Thr Leu Asp Arg  Asn Ser Leu
        2525                   2530                  2535
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Tyr Val  Asn Gly Phe Thr His  Gln Thr Ser Ala Pro  Asn Thr Ser
2540               2545              2550

Thr Pro  Gly Thr Ser Thr Val  Asp Leu Gly Thr Ser  Gly Thr Pro
2555               2560              2565

Ser Ser  Leu Pro Ser Pro Thr  Ser Ala Gly Pro Leu  Leu Val Pro
2570               2575              2580

Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Gln Tyr  Glu Glu Asp
2585               2590              2595

Met His  His Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
2600               2605              2610

Leu Gln  Gly Leu Leu Gly Pro  Met Phe Lys Asn Thr  Ser Val Gly
2615               2620              2625

Leu Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu Leu Arg  Pro Glu Lys
2630               2635              2640

Asn Gly  Ala Ala Thr Gly Met  Asp Ala Ile Cys Ser  His Arg Leu
2645               2650              2655

Asp Pro  Lys Ser Pro Gly Leu  Asn Arg Glu Gln Leu  Tyr Trp Glu
2660               2665              2670

Leu Ser  Gln Leu Thr His Gly  Ile Lys Glu Leu Gly  Pro Tyr Thr
2675               2680              2685

Leu Asp  Arg Asn Ser Leu Tyr  Val Asn Gly Phe Thr  His Arg Ser
2690               2695              2700

Ser Val  Ala Pro Thr Ser Thr  Pro Gly Thr Ser Thr  Val Asp Leu
2705               2710              2715

Gly Thr  Ser Gly Thr Pro Ser  Ser Leu Pro Ser Pro  Thr Thr Ala
2720               2725              2730

Val Pro  Leu Leu Val Pro Phe  Thr Leu Asn Phe Thr  Ile Thr Asn
2735               2740              2745

Leu Gln  Tyr Gly Glu Asp Met  Arg His Pro Gly Ser  Arg Lys Phe
2750               2755              2760

Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu Leu Gly  Pro Leu Phe
2765               2770              2775

Lys Asn  Ser Ser Val Gly Pro  Leu Tyr Ser Gly Cys  Arg Leu Ile
2780               2785              2790

Ser Leu  Arg Ser Glu Lys Asp  Gly Ala Ala Thr Gly  Val Asp Ala
2795               2800              2805

Ile Cys  Thr His His Leu Asn  Pro Gln Ser Pro Gly  Leu Asp Arg
2810               2815              2820

Glu Gln  Leu Tyr Trp Gln Leu  Ser Gln Met Thr Asn  Gly Ile Lys
2825               2830              2835
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Glu Leu  Gly Pro Tyr Thr Leu  Asp Arg Asn Ser Leu   Tyr Val Asn
    2840              2845              2850

Gly Phe  Thr His Arg Ser Ser  Gly Leu Thr Thr Ser   Thr Pro Trp
    2855              2860              2865

Thr Ser  Thr Val Asp Leu Gly  Thr Ser Gly Thr Pro   Ser Pro Val
    2870              2875              2880

Pro Ser  Pro Thr Thr Ala Gly  Pro Leu Leu Val Pro   Phe Thr Leu
    2885              2890              2895

Asn Phe  Thr Ile Thr Asn Leu  Gln Tyr Glu Glu Asp   Met His Arg
    2900              2905              2910

Pro Gly  Ser Arg Lys Phe Asn  Ala Thr Glu Arg Val   Leu Gln Gly
    2915              2920              2925

Leu Leu  Ser Pro Ile Phe Lys  Asn Ser Ser Val Gly   Pro Leu Tyr
    2930              2935              2940

Ser Gly  Cys Arg Leu Thr Ser  Leu Arg Pro Glu Lys   Asp Gly Ala
    2945              2950              2955

Ala Thr  Gly Met Asp Ala Val  Cys Leu Tyr His Pro   Asn Pro Lys
    2960              2965              2970

Arg Pro  Gly Leu Asp Arg Glu  Gln Leu Tyr Trp Glu   Leu Ser Gln
    2975              2980              2985

Leu Thr  His Asn Ile Thr Glu  Leu Gly Pro Tyr Ser   Leu Asp Arg
    2990              2995              3000

Asp Ser  Leu Tyr Val Asn Gly  Phe Thr His Gln Asn   Ser Val Pro
    3005              3010              3015

Thr Thr  Ser Thr Pro Gly Thr  Ser Thr Val Tyr Trp   Ala Thr Thr
    3020              3025              3030

Gly Thr  Pro Ser Ser Phe Pro  Gly His Thr Glu Pro   Gly Pro Leu
    3035              3040              3045

Leu Ile  Pro Phe Thr Phe Asn  Phe Thr Ile Thr Asn   Leu His Tyr
    3050              3055              3060

Glu Glu  Asn Met Gln His Pro  Gly Ser Arg Lys Phe   Asn Thr Thr
    3065              3070              3075

Glu Arg  Val Leu Gln Gly Leu  Leu Lys Pro Leu Phe   Lys Asn Thr
    3080              3085              3090

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Thr   Ser Leu Arg
    3095              3100              3105

Pro Glu  Lys Asp Gly Ala Ala  Thr Gly Met Asp Ala   Val Cys Leu
    3110              3115              3120

Tyr His  Pro Asn Pro Lys Arg  Pro Gly Leu Asp Arg   Glu Gln Leu
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        3125                    3130                    3135
Tyr Cys  Glu Leu Ser Gln Leu  Thr His Asn Ile Thr  Glu Leu Gly
        3140                    3145                    3150
Pro Tyr  Ser Leu Asp Arg Asp  Ser Leu Tyr Val Asn  Gly Phe Thr
        3155                    3160                    3165
His Gln  Asn Ser Val Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr
        3170                    3175                    3180
Val Tyr  Trp Ala Thr Thr Gly  Thr Pro Ser Ser Phe  Pro Gly His
        3185                    3190                    3195
Thr Glu  Pro Gly Pro Leu Leu  Ile Pro Phe Thr Phe  Asn Phe Thr
        3200                    3205                    3210
Ile Thr  Asn Leu His Tyr Glu  Glu Asn Met Gln His  Pro Gly Ser
        3215                    3220                    3225
Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Lys
        3230                    3235                    3240
Pro Leu  Phe Lys Asn Thr Ser  Val Gly Pro Leu Tyr  Ser Gly Cys
        3245                    3250                    3255
Arg Leu  Thr Leu Leu Arg Pro  Glu Lys His Glu Ala  Ala Thr Gly
        3260                    3265                    3270
Val Asp  Thr Ile Cys Thr His  Arg Val Asp Pro Ile  Gly Pro Gly
        3275                    3280                    3285
Leu Asp  Arg Glu Arg Leu Tyr  Trp Glu Leu Ser Gln  Leu Thr Asn
        3290                    3295                    3300
Ser Ile  Thr Glu Leu Gly Pro  Tyr Thr Leu Asp Arg  Asp Ser Leu
        3305                    3310                    3315
Tyr Val  Asn Gly Phe Asn Pro  Arg Ser Ser Val Pro  Thr Thr Ser
        3320                    3325                    3330
Thr Pro  Gly Thr Ser Thr Val  His Leu Ala Thr Ser  Gly Thr Pro
        3335                    3340                    3345
Ser Ser  Leu Pro Gly His Thr  Ala Pro Val Pro Leu  Leu Ile Pro
        3350                    3355                    3360
Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu His Tyr  Glu Glu Asn
        3365                    3370                    3375
Met Gln  His Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
        3380                    3385                    3390
Leu Gln  Gly Leu Leu Lys Pro  Leu Phe Lys Asn Thr  Ser Val Gly
        3395                    3400                    3405
Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu Leu Arg  Pro Glu Lys
        3410                    3415                    3420
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His Glu  Ala Ala Thr Gly Val  Asp Thr Ile Cys Thr  His Arg Val
    3425              3430              3435

Asp Pro  Ile Gly Pro Gly Leu  Asp Arg Glu Xaa Leu  Tyr Trp Glu
    3440              3445              3450

Leu Ser  Xaa Leu Thr Xaa Xaa  Ile Xaa Glu Leu Gly  Pro Tyr Xaa
    3455              3460              3465

Leu Asp  Arg Xaa Ser Leu Tyr  Val Asn Gly Phe Xaa  Xaa Xaa Xaa
    3470              3475              3480

Xaa Xaa  Xaa Xaa Thr Ser Thr  Pro Gly Thr Ser Xaa  Val Xaa Leu
    3485              3490              3495

Xaa Thr  Ser Gly Thr Pro Xaa  Xaa Xaa Pro Xaa Xaa  Thr Ser Ala
    3500              3505              3510

Gly Pro  Leu Leu Val Pro Phe  Thr Leu Asn Phe Thr  Ile Thr Asn
    3515              3520              3525

Leu Gln  Tyr Glu Glu Asp Met  His His Pro Gly Ser  Arg Lys Phe
    3530              3535              3540

Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu Leu Gly  Pro Met Phe
    3545              3550              3555

Lys Asn  Thr Ser Val Gly Leu  Leu Tyr Ser Gly Cys  Arg Leu Thr
    3560              3565              3570

Leu Leu  Arg Pro Glu Lys Asn  Gly Ala Ala Thr Gly  Met Asp Ala
    3575              3580              3585

Ile Cys  Ser His Arg Leu Asp  Pro Lys Ser Pro Gly  Leu Asp Arg
    3590              3595              3600

Glu Gln  Leu Tyr Trp Glu Leu  Ser Gln Leu Thr His  Gly Ile Lys
    3605              3610              3615

Glu Leu  Gly Pro Tyr Thr Leu  Asp Arg Asn Ser Leu  Tyr Val Asn
    3620              3625              3630

Gly Phe  Thr His Arg Ser Ser  Val Ala Pro Thr Ser  Thr Pro Gly
    3635              3640              3645

Thr Ser  Thr Val Asp Leu Gly  Thr Ser Gly Thr Pro  Ser Ser Leu
    3650              3655              3660

Pro Ser  Pro Thr Thr Ala Val  Pro Leu Leu Val Pro  Phe Thr Leu
    3665              3670              3675

Asn Phe  Thr Ile Thr Asn Leu  Gln Tyr Gly Glu Asp  Met Arg His
    3680              3685              3690

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
    3695              3700              3705

Leu Leu  Gly Pro Leu Phe Lys  Asn Ser Ser Val Gly  Pro Leu Tyr
    3710              3715              3720
```

Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala
    3725   3730   3735

Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln
    3740   3745   3750

Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln
    3755   3760   3765

Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg
    3770   3775   3780

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu
    3785   3790   3795

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser
    3800   3805   3810

Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu
    3815   3820   3825

Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr
    3830   3835   3840

Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr
    3845   3850   3855

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser
    3860   3865   3870

Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg
    3875   3880   3885

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu
    3890   3895   3900

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu
    3905   3910   3915

Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly
    3920   3925   3930

Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr
    3935   3940   3945

His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr
    3950   3955   3960

Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro
    3965   3970   3975

Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr
    3980   3985   3990

Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser
    3995   4000   4005

Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu Lys

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      4010                    4015                    4020
Pro Leu  Phe Lys Asn Thr Ser  Val Gly Pro Leu Tyr  Ser Gly Cys
      4025                    4030                    4035

Arg Leu  Thr Leu Leu Arg Pro  Lys Lys Asp Gly Ala  Ala Thr Gly
      4040                    4045                    4050

Val Asp  Ala Ile Cys Thr His  Arg Leu Asp Pro Lys  Ser Pro Gly
      4055                    4060                    4065

Leu Asn  Arg Glu Gln Leu Tyr  Trp Glu Leu Ser Lys  Leu Thr Asn
      4070                    4075                    4080

Asp Ile  Glu Glu Leu Gly Pro  Tyr Thr Leu Asp Arg  Asn Ser Leu
      4085                    4090                    4095

Tyr Val  Asn Gly Phe Thr His  Gln Ser Ser Val Ser  Thr Thr Ser
      4100                    4105                    4110

Thr Pro  Gly Thr Ser Thr Val  Asp Leu Arg Thr Ser  Gly Thr Pro
      4115                    4120                    4125

Ser Ser  Leu Ser Ser Pro Thr  Ile Met Xaa Xaa Xaa  Pro Leu Leu
      4130                    4135                    4140

Xaa Pro  Phe Thr Leu Asn Phe  Thr Ile Thr Asn Leu  Xaa Tyr Glu
      4145                    4150                    4155

Glu Xaa  Met Xaa Xaa Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu
      4160                    4165                    4170

Arg Val  Leu Gln Gly Leu Leu  Arg Pro Leu Phe Lys  Asn Thr Ser
      4175                    4180                    4185

Val Ser  Ser Leu Tyr Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro
      4190                    4195                    4200

Glu Lys  Asp Gly Ala Ala Thr  Arg Val Asp Ala Ala  Cys Thr Tyr
      4205                    4210                    4215

Arg Pro  Asp Pro Lys Ser Pro  Gly Leu Asp Arg Glu  Gln Leu Tyr
      4220                    4225                    4230

Trp Glu  Leu Ser Gln Leu Thr  His Ser Ile Thr Glu  Leu Gly Pro
      4235                    4240                    4245

Tyr Thr  Leu Asp Arg Val Ser  Leu Tyr Val Asn Gly  Phe Asn Pro
      4250                    4255                    4260

Arg Ser  Ser Val Pro Thr Thr  Ser Thr Pro Gly Thr  Ser Thr Val
      4265                    4270                    4275

His Leu  Ala Thr Ser Gly Thr  Pro Ser Ser Leu Pro  Gly His Thr
      4280                    4285                    4290

Xaa Xaa  Xaa Pro Leu Leu Xaa  Pro Phe Thr Leu Asn  Phe Thr Ile
      4295                    4300                    4305
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Thr Asn  Leu Xaa Tyr Glu Glu  Xaa Met Xaa Xaa Pro  Gly Ser Arg
    4310                4315            4320

Lys Phe  Asn Thr Thr Glu Arg  Val Leu Gln Gly Leu  Leu Lys Pro
    4325                4330            4335

Leu Phe  Arg Asn Ser Ser Leu  Glu Tyr Leu Tyr Ser  Gly Cys Arg
    4340                4345            4350

Leu Ala  Ser Leu Arg Pro Glu  Lys Asp Ser Ser Ala  Met Ala Val
    4355                4360            4365

Asp Ala  Ile Cys Thr His Arg  Pro Asp Pro Glu Asp  Leu Gly Leu
    4370                4375            4380

Asp Arg  Glu Arg Leu Tyr Trp  Glu Leu Ser Asn Leu  Thr Asn Gly
    4385                4390            4395

Ile Gln  Glu Leu Gly Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr
    4400                4405            4410

Val Asn  Gly Phe Thr His Arg  Ser Ser Phe Leu Thr  Thr Ser Thr
    4415                4420            4425

Pro Trp  Thr Ser Thr Val Asp  Leu Gly Thr Ser Gly  Thr Pro Ser
    4430                4435            4440

Pro Val  Pro Ser Pro Thr Thr  Ala Gly Pro Leu Leu  Val Pro Phe
    4445                4450            4455

Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Gln Tyr Glu  Glu Asp Met
    4460                4465            4470

His Arg  Pro Gly Ser Arg Arg  Phe Asn Thr Thr Glu  Arg Val Leu
    4475                4480            4485

Gln Gly  Leu Leu Thr Pro Leu  Phe Lys Asn Thr Ser  Val Gly Pro
    4490                4495            4500

Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Pro  Glu Lys Gln
    4505                4510            4515

Glu Ala  Ala Thr Gly Val Asp  Thr Ile Cys Thr His  Arg Val Asp
    4520                4525            4530

Pro Ile  Gly Pro Gly Leu Asp  Arg Glu Arg Leu Tyr  Trp Glu Leu
    4535                4540            4545

Ser Gln  Leu Thr Asn Ser Ile  Thr Glu Leu Gly Pro  Tyr Thr Leu
    4550                4555            4560

Asp Arg  Asp Ser Leu Tyr Val  Asn Gly Phe Asn Pro  Trp Ser Ser
    4565                4570            4575

Val Pro  Thr Thr Ser Thr Pro  Gly Thr Ser Thr Val  His Leu Ala
    4580                4585            4590

Thr Ser  Gly Thr Pro Ser Ser  Leu Pro Gly His Thr  Ala Pro Val
    4595                4600            4605
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Pro Leu  Leu Ile Pro Phe Thr  Leu Asn Phe Thr Ile  Thr Asp Leu
    4610                  4615                  4620

His Tyr  Glu Glu Asn Met Gln  His Pro Gly Ser Arg  Lys Phe Asn
    4625                  4630                  4635

Thr Thr  Glu Arg Val Leu Gln  Gly Leu Leu Lys Pro  Leu Phe Lys
    4640                  4645                  4650

Ser Thr  Ser Val Gly Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu
    4655                  4660                  4665

Leu Arg  Pro Glu Lys His Gly  Ala Ala Thr Gly Val  Asp Ala Ile
    4670                  4675                  4680

Cys Thr  Leu Arg Leu Asp Pro  Thr Gly Pro Gly Leu  Asp Arg Glu
    4685                  4690                  4695

Arg Leu  Tyr Trp Glu Leu Ser  Gln Leu Thr Asn Ser  Val Thr Glu
    4700                  4705                  4710

Leu Gly  Pro Tyr Thr Leu Asp  Arg Asp Ser Leu Tyr  Val Asn Gly
    4715                  4720                  4725

Phe Thr  His Arg Ser Ser Val  Pro Thr Thr Ser Ile  Pro Gly Thr
    4730                  4735                  4740

Ser Ala  Val His Leu Glu Thr  Ser Gly Thr Pro Ala  Ser Leu Pro
    4745                  4750                  4755

Gly His  Thr Ala Pro Gly Pro  Leu Leu Val Pro Pro  Thr Leu Asn
    4760                  4765                  4770

Phe Thr  Ile Thr Asn Leu Gln  Tyr Glu Glu Asp Met  Arg His Pro
    4775                  4780                  4785

Gly Ser  Arg Lys Phe Ser Thr  Thr Glu Arg Val Leu  Gln Gly Leu
    4790                  4795                  4800

Leu Lys  Pro Leu Phe Lys Asn  Thr Ser Val Ser Ser  Leu Tyr Ser
    4805                  4810                  4815

Gly Cys  Arg Leu Thr Leu Leu  Arg Pro Glu Lys Asp  Gly Ala Ala
    4820                  4825                  4830

Thr Arg  Val Asp Ala Val Cys  Thr His Arg Pro Asp  Pro Lys Ser
    4835                  4840                  4845

Pro Gly  Leu Asp Arg Glu Arg  Leu Tyr Trp Lys Leu  Ser Gln Leu
    4850                  4855                  4860

Thr His  Gly Ile Thr Glu Leu  Gly Pro Tyr Thr Leu  Asp Arg His
    4865                  4870                  4875

Ser Leu  Tyr Val Asn Gly Phe  Thr His Gln Ser Ser  Met Thr Thr
    4880                  4885                  4890

Thr Arg  Thr Pro Asp Thr Ser  Thr Met His Leu Ala  Thr Ser Arg
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          4895                    4900                     4905
Thr Pro  Ala Ser Leu Ser Gly  Pro Thr Thr Ala Ser  Pro Leu Leu
    4910                    4915                     4920
Val Leu  Phe Thr Ile Asn Phe  Thr Ile Thr Asn Gln  Arg Tyr Glu
    4925                    4930                     4935
Glu Asn  Met His His Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu
    4940                    4945                     4950
Arg Val  Leu Gln Gly Leu Leu  Arg Pro Val Phe Lys  Asn Thr Ser
    4955                    4960                     4965
Val Gly  Pro Leu Tyr Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro
    4970                    4975                     4980
Lys Lys  Asp Gly Ala Ala Thr  Lys Val Asp Ala Ile  Cys Thr Tyr
    4985                    4990                     4995
Arg Pro  Asp Pro Lys Ser Pro  Gly Leu Asp Arg Glu  Gln Leu Tyr
    5000                    5005                     5010
Trp Glu  Leu Ser Gln Leu Thr  His Ser Ile Thr Glu  Leu Gly Pro
    5015                    5020                     5025
Tyr Thr  Gln Asp Arg Asp Ser  Leu Tyr Val Asn Gly  Phe Thr His
    5030                    5035                     5040
Arg Ser  Ser Val Pro Thr Thr  Ser Ile Pro Gly Thr  Ser Ala Val
    5045                    5050                     5055
His Leu  Glu Thr Ser Gly Thr  Pro Ala Ser Leu Pro  Gly His Thr
    5060                    5065                     5070
Ala Pro  Gly Pro Leu Leu Val  Pro Phe Thr Leu Asn  Phe Thr Ile
    5075                    5080                     5085
Thr Asn  Leu Gln Tyr Glu Glu  Asp Met Arg His Pro  Gly Ser Arg
    5090                    5095                     5100
Lys Phe  Asn Thr Thr Glu Arg  Val Leu Gln Gly Leu  Leu Lys Pro
    5105                    5110                     5115
Leu Phe  Lys Ser Thr Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg
    5120                    5125                     5130
Leu Thr  Leu Leu Arg Pro Glu  Lys Arg Gly Ala Ala  Thr Gly Val
    5135                    5140                     5145
Asp Thr  Ile Cys Thr His Arg  Leu Asp Pro Leu Asn  Pro Gly Leu
    5150                    5155                     5160
Asp Arg  Glu Gln Leu Tyr Trp  Glu Leu Ser Lys Leu  Thr Arg Gly
    5165                    5170                     5175
Ile Ile  Glu Leu Gly Pro Tyr  Leu Leu Asp Arg Gly  Ser Leu Tyr
    5180                    5185                     5190
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Val Asn  Gly Phe Thr His Arg  Thr Ser Val Pro Thr  Thr Ser Thr
    5195                 5200             5205

Pro Gly  Thr Ser Thr Val Asp  Leu Gly Thr Ser Gly  Thr Pro Phe
    5210                 5215             5220

Ser Leu  Pro Ser Pro Ala Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe
    5225                 5230             5235

Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met
    5240                 5245             5250

Xaa Xaa  Pro Gly Ser Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu
    5255                 5260             5265

Gln Thr  Leu Leu Gly Pro Met  Phe Lys Asn Thr Ser  Val Gly Leu
    5270                 5275             5280

Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Ser  Glu Lys Asp
    5285                 5290             5295

Gly Ala  Ala Thr Gly Val Asp  Ala Ile Cys Thr His  Arg Leu Asp
    5300                 5305             5310

Pro Lys  Ser Pro Gly Val Asp  Arg Glu Gln Leu Tyr  Trp Glu Leu
    5315                 5320             5325

Ser Gln  Leu Thr Asn Gly Ile  Lys Glu Leu Gly Pro  Tyr Thr Leu
    5330                 5335             5340

Asp Arg  Asn Ser Leu Tyr Val  Asn Gly Phe Thr His  Trp Ile Pro
    5345                 5350             5355

Val Pro  Thr Ser Ser Thr Pro  Gly Thr Ser Thr Val  Asp Leu Gly
    5360                 5365             5370

Ser Gly  Thr Pro Ser Leu Pro  Ser Ser Pro Thr Thr  Ala Gly Pro
    5375                 5380             5385

Leu Leu  Val Pro Phe Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Lys
    5390                 5395             5400

Tyr Glu  Glu Asp Met His Cys  Pro Gly Ser Arg Lys  Phe Asn Thr
    5405                 5410             5415

Thr Glu  Arg Val Leu Gln Ser  Leu Leu Gly Pro Met  Phe Lys Asn
    5420                 5425             5430

Thr Ser  Val Gly Pro Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu
    5435                 5440             5445

Arg Ser  Glu Lys Asp Gly Ala  Ala Thr Gly Val Asp  Ala Ile Cys
    5450                 5455             5460

Thr His  Arg Leu Asp Pro Lys  Ser Pro Gly Val Asp  Arg Glu Gln
    5465                 5470             5475

Leu Tyr  Trp Glu Leu Ser Gln  Leu Thr Asn Gly Ile  Lys Glu Leu
    5480                 5485             5490
```

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe
    5495   5500   5505

Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser
    5510   5515   5520

Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser
    5525   5530   5535

Pro Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe
    5540   5545   5550

Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly
    5555   5560   5565

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu
    5570   5575   5580

Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly
    5585   5590   5595

Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr
    5600   5605   5610

Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro
    5615   5620   5625

Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr
    5630   5635   5640

Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser
    5645   5650   5655

Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser
    5660   5665   5670

Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro
    5675   5680   5685

Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro
    5690   5695   5700

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp
    5705   5710   5715

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val
    5720   5725   5730

Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly
    5735   5740   5745

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys
    5750   5755   5760

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Val
    5765   5770   5775

Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu

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        5780                    5785                    5790
Leu Ser  Gln Leu Thr Asn Gly  Ile Lys Glu Leu Gly  Pro Tyr Thr
    5795                    5800                    5805
Leu Asp  Arg Asn Ser Leu Tyr  Val Asn Gly Phe Thr  His Gln Thr
    5810                    5815                    5820
Ser Ala  Pro Asn Thr Ser Thr  Pro Gly Thr Ser Thr  Val Asp Leu
    5825                    5830                    5835
Gly Thr  Ser Gly Thr Pro Ser  Ser Leu Pro Ser Pro  Thr Ser Ala
    5840                    5845                    5850
Gly Pro  Leu Leu Val Pro Phe  Thr Leu Asn Phe Thr  Ile Thr Asn
    5855                    5860                    5865
Leu Gln  Tyr Glu Glu Asp Met  His His Pro Gly Ser  Arg Lys Phe
    5870                    5875                    5880
Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu Leu Gly  Pro Met Phe
    5885                    5890                    5895
Lys Asn  Thr Ser Val Gly Leu  Leu Tyr Ser Gly Cys  Arg Leu Thr
    5900                    5905                    5910
Leu Leu  Arg Pro Glu Lys Asn  Gly Ala Ala Thr Gly  Met Asp Ala
    5915                    5920                    5925
Ile Cys  Thr His Arg Leu Asp  Pro Lys Ser Pro Gly  Leu Asp Arg
    5930                    5935                    5940
Glu Xaa  Leu Tyr Trp Glu Leu  Ser Xaa Leu Thr Xaa  Xaa Ile Xaa
    5945                    5950                    5955
Glu Leu  Gly Pro Tyr Xaa Leu  Asp Arg Xaa Ser Leu  Tyr Val Asn
    5960                    5965                    5970
Gly Phe  Xaa Xaa Xaa Xaa Xaa  Xaa Xaa Xaa Thr Ser  Thr Pro Gly
    5975                    5980                    5985
Thr Ser  Xaa Val Xaa Leu Xaa  Thr Ser Gly Thr Pro  Xaa Xaa Xaa
    5990                    5995                    6000
Pro Xaa  Xaa Thr Xaa Xaa Xaa  Pro Leu Leu Xaa Pro  Phe Thr Leu
    6005                    6010                    6015
Asn Phe  Thr Ile Thr Asn Leu  Xaa Tyr Glu Glu Xaa  Met Xaa Xaa
    6020                    6025                    6030
Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
    6035                    6040                    6045
Leu Leu  Lys Pro Leu Phe Arg  Asn Ser Ser Leu Glu  Tyr Leu Tyr
    6050                    6055                    6060
Ser Gly  Cys Arg Leu Ala Ser  Leu Arg Pro Glu Lys  Asp Ser Ser
    6065                    6070                    6075
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Ala Met  Ala Val Asp Ala Ile  Cys Thr His Arg Pro  Asp Pro Glu
    6080             6085             6090

Asp Leu  Gly Leu Asp Arg Glu  Arg Leu Tyr Trp Glu  Leu Ser Asn
    6095             6100             6105

Leu Thr  Asn Gly Ile Gln Glu  Leu Gly Pro Tyr Thr  Leu Asp Arg
    6110             6115             6120

Asn Ser  Leu Tyr Val Asn Gly  Phe Thr His Arg Ser  Ser Met Pro
    6125             6130             6135

Thr Thr  Ser Thr Pro Gly Thr  Ser Thr Val Asp Val  Gly Thr Ser
    6140             6145             6150

Gly Thr  Pro Ser Ser Ser Pro  Ser Pro Thr Thr Ala  Gly Pro Leu
    6155             6160             6165

Leu Ile  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Gln Tyr
    6170             6175             6180

Gly Glu  Asp Met Gly His Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    6185             6190             6195

Glu Arg  Val Leu Gln Gly Leu  Leu Gly Pro Ile Phe  Lys Asn Thr
    6200             6205             6210

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Thr  Ser Leu Arg
    6215             6220             6225

Ser Glu  Lys Asp Gly Ala Ala  Thr Gly Val Asp Ala  Ile Cys Ile
    6230             6235             6240

His His  Leu Asp Pro Lys Ser  Pro Gly Leu Asn Arg  Glu Arg Leu
    6245             6250             6255

Tyr Trp  Glu Leu Ser Gln Leu  Thr Asn Gly Ile Lys  Glu Leu Gly
    6260             6265             6270

Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr Val Asn  Gly Phe Thr
    6275             6280             6285

His Arg  Thr Ser Val Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr
    6290             6295             6300

Val Asp  Leu Gly Thr Ser Gly  Thr Pro Phe Ser Leu  Pro Ser Pro
    6305             6310             6315

Ala Thr  Ala Gly Pro Leu Leu  Val Leu Phe Thr Leu  Asn Phe Thr
    6320             6325             6330

Ile Thr  Asn Leu Lys Tyr Glu  Glu Asp Met His Arg  Pro Gly Ser
    6335             6340             6345

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Thr  Leu Leu Gly
    6350             6355             6360

Pro Met  Phe Lys Asn Thr Ser  Val Gly Leu Leu Tyr  Ser Gly Cys
    6365             6370             6375
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Arg Leu  Thr Leu Leu Arg Ser  Glu Lys Asp Gly Ala  Ala Thr Gly
    6380             6385             6390

Val Asp  Ala Ile Cys Thr His  Arg Leu Asp Pro Lys  Ser Pro Gly
    6395             6400             6405

Leu Asp  Arg Glu Xaa Leu Tyr  Trp Glu Leu Ser Xaa  Leu Thr Xaa
    6410             6415             6420

Xaa Ile  Xaa Glu Leu Gly Pro  Tyr Xaa Leu Asp Arg  Xaa Ser Leu
    6425             6430             6435

Tyr Val  Asn Gly Phe Xaa Xaa  Xaa Xaa Xaa Xaa Xaa  Xaa Thr Ser
    6440             6445             6450

Thr Pro  Gly Thr Ser Xaa Val  Xaa Leu Xaa Thr Ser  Gly Thr Pro
    6455             6460             6465

Xaa Xaa  Xaa Pro Xaa Xaa Thr  Xaa Xaa Xaa Pro Leu  Leu Xaa Pro
    6470             6475             6480

Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Xaa Tyr  Glu Glu Xaa
    6485             6490             6495

Met Xaa  Xaa Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
    6500             6505             6510

Leu Gln  Gly Leu Leu Arg Pro  Val Phe Lys Asn Thr  Ser Val Gly
    6515             6520             6525

Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu Leu Arg  Pro Lys Lys
    6530             6535             6540

Asp Gly  Ala Ala Thr Lys Val  Asp Ala Ile Cys Thr  Tyr Arg Pro
    6545             6550             6555

Asp Pro  Lys Ser Pro Gly Leu  Asp Arg Glu Gln Leu  Tyr Trp Glu
    6560             6565             6570

Leu Ser  Gln Leu Thr His Ser  Ile Thr Glu Leu Gly  Pro Tyr Thr
    6575             6580             6585

Gln Asp  Arg Asp Ser Leu Tyr  Val Asn Gly Phe Thr  His Arg Ser
    6590             6595             6600

Ser Val  Pro Thr Thr Ser Ile  Pro Gly Thr Ser Ala  Val His Leu
    6605             6610             6615

Glu Thr  Thr Gly Thr Pro Ser  Ser Phe Pro Gly His  Thr Glu Pro
    6620             6625             6630

Gly Pro  Leu Leu Ile Pro Phe  Thr Phe Asn Phe Thr  Ile Thr Asn
    6635             6640             6645

Leu Arg  Tyr Glu Glu Asn Met  Gln His Pro Gly Ser  Arg Lys Phe
    6650             6655             6660

Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu Leu Thr  Pro Leu Phe
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        6665                    6670                    6675

Lys Asn  Thr Ser Val Gly Pro  Leu Tyr Ser Gly Cys  Arg Leu Thr
        6680                    6685                    6690

Leu Leu  Arg Pro Glu Lys Gln  Glu Ala Ala Thr Gly  Val Asp Thr
        6695                    6700                    6705

Ile Cys  Thr His Arg Val Asp  Pro Ile Gly Pro Gly  Leu Asp Arg
        6710                    6715                    6720

Glu Arg  Leu Tyr Trp Glu Leu  Ser Gln Leu Thr Asn  Ser Ile Thr
        6725                    6730                    6735

Glu Leu  Gly Pro Tyr Thr Leu  Asp Arg Asp Ser Leu  Tyr Val Asp
        6740                    6745                    6750

Gly Phe  Asn Pro Trp Ser Ser  Val Pro Thr Thr Ser  Thr Pro Gly
        6755                    6760                    6765

Thr Ser  Thr Val His Leu Ala  Thr Ser Gly Thr Pro  Ser Pro Leu
        6770                    6775                    6780

Pro Gly  His Thr Ala Pro Val  Pro Leu Leu Ile Pro  Phe Thr Leu
        6785                    6790                    6795

Asn Phe  Thr Ile Thr Asp Leu  His Tyr Glu Glu Asn  Met Gln His
        6800                    6805                    6810

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
        6815                    6820                    6825

Leu Leu  Lys Pro Leu Phe Lys  Ser Thr Ser Val Gly  Pro Leu Tyr
        6830                    6835                    6840

Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro Glu Lys  His Gly Ala
        6845                    6850                    6855

Ala Thr  Gly Val Asp Ala Ile  Cys Thr Leu Arg Leu  Asp Pro Thr
        6860                    6865                    6870

Gly Pro  Gly Leu Asp Arg Glu  Arg Leu Tyr Trp Glu  Leu Ser Gln
        6875                    6880                    6885

Leu Thr  Asn Ser Ile Thr Glu  Leu Gly Pro Tyr Thr  Leu Asp Arg
        6890                    6895                    6900

Asp Ser  Leu Tyr Val Asn Gly  Phe Asn Pro Trp Ser  Ser Val Pro
        6905                    6910                    6915

Thr Thr  Ser Thr Pro Gly Thr  Ser Thr Val His Leu  Ala Thr Ser
        6920                    6925                    6930

Gly Thr  Pro Ser Ser Leu Pro  Gly His Thr Thr Ala  Gly Pro Leu
        6935                    6940                    6945

Leu Val  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Lys Tyr
        6950                    6955                    6960
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Glu Glu  Asp Met His Cys Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    6965             6970             6975

Glu Arg  Val Leu Gln Ser Leu  His Gly Pro Met Phe  Lys Asn Thr
    6980             6985             6990

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
    6995             7000             7005

Ser Glu  Lys Asp Gly Ala Ala  Thr Gly Val Asp Ala  Ile Cys Thr
    7010             7015             7020

His Arg  Leu Asp Pro Lys Ser  Pro Gly Leu Asp Arg  Glu Xaa Leu
    7025             7030             7035

Tyr Trp  Glu Leu Ser Xaa Leu  Thr Xaa Xaa Ile Xaa  Glu Leu Gly
    7040             7045             7050

Pro Tyr  Xaa Leu Asp Arg Xaa  Ser Leu Tyr Val Asn  Gly Phe Xaa
    7055             7060             7065

Xaa Xaa  Xaa Xaa Xaa Xaa Xaa  Thr Ser Thr Pro Gly  Thr Ser Xaa
    7070             7075             7080

Val Xaa  Leu Xaa Thr Ser Gly  Thr Pro Xaa Xaa Xaa  Pro Xaa Xaa
    7085             7090             7095

Thr Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe Thr Leu  Asn Phe Thr
    7100             7105             7110

Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met Xaa Xaa  Pro Gly Ser
    7115             7120             7125

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Xaa
    7130             7135             7140

Pro Xaa  Phe Lys Xaa Thr Ser  Val Gly Xaa Leu Tyr  Ser Gly Cys
    7145             7150             7155

Arg Leu  Thr Leu Leu Arg Xaa  Glu Lys Xaa Xaa Ala  Ala Thr Xaa
    7160             7165             7170

Val Asp  Xaa Xaa Cys Xaa Xaa  Xaa Xaa Asp Pro Xaa  Xaa Pro Gly
    7175             7180             7185

Leu Asp  Arg Glu Xaa Leu Tyr  Trp Glu Leu Ser Xaa  Leu Thr Asn
    7190             7195             7200

Ser Ile  Thr Glu Leu Gly Pro  Tyr Thr Leu Asp Arg  Asp Ser Leu
    7205             7210             7215

Tyr Val  Asn Gly Phe Thr His  Arg Ser Ser Met Pro  Thr Thr Ser
    7220             7225             7230

Ile Pro  Gly Thr Ser Ala Val  His Leu Glu Thr Ser  Gly Thr Pro
    7235             7240             7245

Ala Ser  Leu Pro Gly His Thr  Ala Pro Gly Pro Leu  Leu Val Pro
    7250             7255             7260
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Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Gln Tyr  Glu Glu Asp
    7265                 7270                 7275

Met Arg  His Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
    7280                 7285                 7290

Leu Gln  Gly Leu Leu Lys Pro  Leu Phe Lys Ser Thr  Ser Val Gly
    7295                 7300                 7305

Pro Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu Leu Arg  Pro Glu Lys
    7310                 7315                 7320

Arg Gly  Ala Ala Thr Gly Val  Asp Thr Ile Cys Thr  His Arg Leu
    7325                 7330                 7335

Asp Pro  Leu Asn Pro Gly Leu  Asp Arg Glu Xaa Leu  Tyr Trp Glu
    7340                 7345                 7350

Leu Ser  Xaa Leu Thr Xaa Xaa  Ile Xaa Glu Leu Gly  Pro Tyr Xaa
    7355                 7360                 7365

Leu Asp  Arg Xaa Ser Leu Tyr  Val Asn Gly Phe Xaa  Xaa Xaa Xaa
    7370                 7375                 7380

Xaa Xaa  Xaa Xaa Thr Ser Thr  Pro Gly Thr Ser Xaa  Val Xaa Leu
    7385                 7390                 7395

Xaa Thr  Ser Gly Thr Pro Xaa  Xaa Xaa Pro Xaa Xaa  Thr Xaa Xaa
    7400                 7405                 7410

Xaa Pro  Leu Leu Xaa Pro Phe  Thr Leu Asn Phe Thr  Ile Thr Asn
    7415                 7420                 7425

Leu Xaa  Tyr Glu Glu Xaa Met  Xaa Xaa Pro Gly Ser  Arg Lys Phe
    7430                 7435                 7440

Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu Leu Xaa  Pro Xaa Phe
    7445                 7450                 7455

Lys Xaa  Thr Ser Val Gly Xaa  Leu Tyr Ser Gly Cys  Arg Leu Thr
    7460                 7465                 7470

Leu Leu  Arg Xaa Glu Lys Xaa  Xaa Ala Ala Thr Xaa  Val Asp Xaa
    7475                 7480                 7485

Xaa Cys  Xaa Xaa Xaa Xaa Asp  Pro Xaa Xaa Pro Gly  Leu Asp Arg
    7490                 7495                 7500

Glu Xaa  Leu Tyr Trp Glu Leu  Ser Xaa Leu Thr Xaa  Xaa Ile Xaa
    7505                 7510                 7515

Glu Leu  Gly Pro Tyr Xaa Leu  Asp Arg Xaa Ser Leu  Tyr Val Asn
    7520                 7525                 7530

Gly Phe  His Pro Arg Ser Ser  Val Pro Thr Thr Ser  Thr Pro Gly
    7535                 7540                 7545

Thr Ser  Thr Val His Leu Ala  Thr Ser Gly Thr Pro  Ser Ser Leu
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        7550                      7555                      7560
Pro Gly  His Thr Ala Pro Val  Pro Leu Leu Ile Pro  Phe Thr Leu
        7565                      7570                      7575

Asn Phe  Thr Ile Thr Asn Leu  His Tyr Glu Glu Asn  Met Gln His
        7580                      7585                      7590

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
        7595                      7600                      7605

Leu Leu  Gly Pro Met Phe Lys  Asn Thr Ser Val Gly  Leu Leu Tyr
        7610                      7615                      7620

Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro Glu Lys  Asn Gly Ala
        7625                      7630                      7635

Ala Thr  Gly Met Asp Ala Ile  Cys Ser His Arg Leu  Asp Pro Lys
        7640                      7645                      7650

Ser Pro  Gly Leu Asp Arg Glu  Xaa Leu Tyr Trp Glu  Leu Ser Xaa
        7655                      7660                      7665

Leu Thr  Xaa Xaa Ile Xaa Glu  Leu Gly Pro Tyr Xaa  Leu Asp Arg
        7670                      7675                      7680

Xaa Ser  Leu Tyr Val Asn Gly  Phe Xaa Xaa Xaa Xaa  Xaa Xaa Xaa
        7685                      7690                      7695

Xaa Thr  Ser Thr Pro Gly Thr  Ser Xaa Val Xaa Leu  Xaa Thr Ser
        7700                      7705                      7710

Gly Thr  Pro Xaa Xaa Xaa Pro  Xaa Xaa Thr Xaa Xaa  Xaa Pro Leu
        7715                      7720                      7725

Leu Xaa  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Xaa Tyr
        7730                      7735                      7740

Glu Glu  Xaa Met Xaa Xaa Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
        7745                      7750                      7755

Glu Arg  Val Leu Gln Gly Leu  Leu Xaa Pro Xaa Phe  Lys Xaa Thr
        7760                      7765                      7770

Ser Val  Gly Xaa Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
        7775                      7780                      7785

Xaa Glu  Lys Xaa Xaa Ala Ala  Thr Xaa Val Asp Xaa  Xaa Cys Xaa
        7790                      7795                      7800

Xaa Xaa  Xaa Asp Pro Xaa Xaa  Pro Gly Leu Asp Arg  Glu Xaa Leu
        7805                      7810                      7815

Tyr Trp  Glu Leu Ser Xaa Leu  Thr Xaa Xaa Ile Xaa  Glu Leu Gly
        7820                      7825                      7830

Pro Tyr  Xaa Leu Asp Arg Xaa  Ser Leu Tyr Val Asn  Gly Phe Thr
        7835                      7840                      7845
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His Gln  Asn Ser Val Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr
    7850                  7855              7860

Val Tyr  Trp Ala Thr Thr Gly  Thr Pro Ser Ser Phe  Pro Gly His
    7865                  7870              7875

Thr Glu  Pro Gly Pro Leu Leu  Ile Pro Phe Thr Phe  Asn Phe Thr
    7880                  7885              7890

Ile Thr  Asn Leu His Tyr Glu  Glu Asn Met Gln His  Pro Gly Ser
    7895                  7900              7905

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Thr
    7910                  7915              7920

Pro Leu  Phe Lys Asn Thr Ser  Val Gly Pro Leu Tyr  Ser Gly Cys
    7925                  7930              7935

Arg Leu  Thr Leu Leu Arg Pro  Glu Lys Gln Glu Ala  Ala Thr Gly
    7940                  7945              7950

Val Asp  Thr Ile Cys Thr His  Arg Val Asp Pro Ile  Gly Pro Gly
    7955                  7960              7965

Leu Asp  Arg Glu Xaa Leu Tyr  Trp Glu Leu Ser Xaa  Leu Thr Xaa
    7970                  7975              7980

Xaa Ile  Xaa Glu Leu Gly Pro  Tyr Xaa Leu Asp Arg  Xaa Ser Leu
    7985                  7990              7995

Tyr Val  Asn Gly Phe Xaa Xaa  Xaa Xaa Xaa Xaa Xaa  Xaa Thr Ser
    8000                  8005              8010

Thr Pro  Gly Thr Ser Xaa Val  Xaa Leu Xaa Thr Ser  Gly Thr Pro
    8015                  8020              8025

Xaa Xaa  Xaa Pro Xaa Xaa Thr  Xaa Xaa Xaa Pro Leu  Leu Xaa Pro
    8030                  8035              8040

Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu Xaa Tyr  Glu Glu Xaa
    8045                  8050              8055

Met Xaa  Xaa Pro Gly Ser Arg  Lys Phe Asn Thr Thr  Glu Arg Val
    8060                  8065              8070

Leu Gln  Gly Leu Leu Xaa Pro  Xaa Phe Lys Xaa Thr  Ser Val Gly
    8075                  8080              8085

Xaa Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu Leu Arg  Xaa Glu Lys
    8090                  8095              8100

Xaa Xaa  Ala Ala Thr Xaa Val  Asp Xaa Xaa Cys Xaa  Xaa Xaa Xaa
    8105                  8110              8115

Asp Pro  Xaa Xaa Pro Gly Leu  Asp Arg Glu Xaa Leu  Tyr Trp Glu
    8120                  8125              8130

Leu Ser  Xaa Leu Thr Xaa Xaa  Ile Xaa Glu Leu Gly  Pro Tyr Xaa
    8135                  8140              8145
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Leu Asp  Arg Xaa Ser Leu Tyr  Val Asn Gly Phe Thr  His Arg Ser
    8150              8155               8160

Ser Val  Pro Thr Thr Ser Ser  Pro Gly Thr Ser Thr  Val His Leu
    8165              8170               8175

Ala Thr  Ser Gly Thr Pro Ser  Ser Leu Pro Gly His  Thr Ala Pro
    8180              8185               8190

Val Pro  Leu Leu Ile Pro Phe  Thr Leu Asn Phe Thr  Ile Thr Asn
    8195              8200               8205

Leu His  Tyr Glu Glu Asn Met  Gln His Pro Gly Ser  Arg Lys Phe
    8210              8215               8220

Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu Leu Lys  Pro Leu Phe
    8225              8230               8235

Lys Ser  Thr Ser Val Gly Pro  Leu Tyr Ser Gly Cys  Arg Leu Thr
    8240              8245               8250

Leu Leu  Arg Pro Glu Lys His  Gly Ala Ala Thr Gly  Val Asp Ala
    8255              8260               8265

Ile Cys  Thr Leu Arg Leu Asp  Pro Thr Gly Pro Gly  Leu Asp Arg
    8270              8275               8280

Glu Xaa  Leu Tyr Trp Glu Leu  Ser Xaa Leu Thr Xaa  Xaa Ile Xaa
    8285              8290               8295

Glu Leu  Gly Pro Tyr Xaa Leu  Asp Arg Xaa Ser Leu  Tyr Val Asn
    8300              8305               8310

Gly Phe  Xaa Xaa Xaa Xaa Xaa  Xaa Xaa Xaa Thr Ser  Thr Pro Gly
    8315              8320               8325

Thr Ser  Xaa Val Xaa Leu Xaa  Thr Ser Gly Thr Pro  Xaa Xaa Xaa
    8330              8335               8340

Pro Xaa  Xaa Thr Xaa Xaa Xaa  Pro Leu Leu Xaa Pro  Phe Thr Leu
    8345              8350               8355

Asn Phe  Thr Ile Thr Asn Leu  Xaa Tyr Glu Glu Xaa  Met Xaa Xaa
    8360              8365               8370

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
    8375              8380               8385

Leu Leu  Xaa Pro Xaa Phe Lys  Xaa Thr Ser Val Gly  Xaa Leu Tyr
    8390              8395               8400

Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Xaa Glu Lys  Xaa Xaa Ala
    8405              8410               8415

Ala Thr  Xaa Val Asp Xaa Xaa  Cys Xaa Xaa Xaa Xaa  Asp Pro Xaa
    8420              8425               8430

Xaa Pro  Gly Leu Asp Arg Glu  Xaa Leu Tyr Trp Glu  Leu Ser Xaa
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      8435                  8440                  8445
Leu Thr  Xaa Xaa Ile Xaa Glu  Leu Gly Pro Tyr Xaa  Leu Asp Arg
      8450                  8455                  8460

Xaa Ser  Leu Tyr Val Asn Gly  Phe Thr His Arg Thr  Ser Val Pro
      8465                  8470                  8475

Thr Thr  Ser Thr Pro Gly Thr  Ser Thr Val His Leu  Ala Thr Ser
      8480                  8485                  8490

Gly Thr  Pro Ser Ser Leu Pro  Gly His Thr Ala Pro  Val Pro Leu
      8495                  8500                  8505

Leu Ile  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Gln Tyr
      8510                  8515                  8520

Glu Glu  Asp Met His Arg Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
      8525                  8530                  8535

Glu Arg  Val Leu Gln Gly Leu  Leu Ser Pro Ile Phe  Lys Asn Ser
      8540                  8545                  8550

Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg Leu Thr  Ser Leu Arg
      8555                  8560                  8565

Pro Glu  Lys Asp Gly Ala Ala  Thr Gly Met Asp Ala  Val Cys Leu
      8570                  8575                  8580

Tyr His  Pro Asn Pro Lys Arg  Pro Gly Leu Asp Arg  Glu Gln Leu
      8585                  8590                  8595

Tyr Cys  Glu Leu Ser Gln Leu  Thr His Asn Ile Thr  Glu Leu Gly
      8600                  8605                  8610

Pro Tyr  Ser Leu Asp Arg Asp  Ser Leu Tyr Val Asn  Gly Phe Thr
      8615                  8620                  8625

His Gln  Asn Ser Val Pro Thr  Thr Ser Thr Pro Gly  Thr Ser Thr
      8630                  8635                  8640

Val Tyr  Trp Ala Thr Thr Gly  Thr Pro Ser Ser Phe  Pro Gly His
      8645                  8650                  8655

Thr Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe Thr Leu  Asn Phe Thr
      8660                  8665                  8670

Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met Xaa Xaa  Pro Gly Ser
      8675                  8680                  8685

Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu Gln Gly  Leu Leu Xaa
      8690                  8695                  8700

Pro Xaa  Phe Lys Xaa Thr Ser  Val Gly Xaa Leu Tyr  Ser Gly Cys
      8705                  8710                  8715

Arg Leu  Thr Leu Leu Arg Xaa  Glu Lys Xaa Xaa Ala  Ala Thr Xaa
      8720                  8725                  8730
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Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro Gly
    8735   8740   8745

Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa
    8750   8755   8760

Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser Leu
    8765   8770   8775

Tyr Val Asn Gly Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser
    8780   8785   8790

Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro
    8795   8800   8805

Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro
    8810   8815   8820

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp
    8825   8830   8835

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val
    8840   8845   8850

Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly
    8855   8860   8865

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys
    8870   8875   8880

Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val
    8885   8890   8895

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu
    8900   8905   8910

Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa
    8915   8920   8925

Leu Asp Arg Xaa Ser Leu Tyr Val Asn Gly Phe Xaa Xaa Xaa Xaa
    8930   8935   8940

Xaa Xaa Xaa Xaa Thr Ser Thr Pro Gly Thr Ser Xaa Val Xaa Leu
    8945   8950   8955

Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Pro Xaa Xaa Thr Xaa Xaa
    8960   8965   8970

Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn
    8975   8980   8985

Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly Ser Arg Lys Phe
    8990   8995   9000

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Xaa Pro Xaa Phe
    9005   9010   9015

Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly Cys Arg Leu Thr
    9020   9025   9030

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Leu Leu  Arg Xaa Glu Lys Xaa  Xaa Ala Ala Thr Xaa  Val Asp Xaa
    9035             9040              9045

Xaa Cys  Xaa Xaa Xaa Xaa Asp  Pro Xaa Xaa Pro Gly  Leu Asp Arg
    9050             9055              9060

Glu Xaa  Leu Tyr Trp Glu Leu  Ser Xaa Leu Thr Xaa  Xaa Ile Xaa
    9065             9070              9075

Glu Leu  Gly Pro Tyr Xaa Leu  Asp Arg Xaa Ser Leu  Tyr Val Asn
    9080             9085              9090

Gly Phe  Thr His Arg Ser Phe  Gly Leu Thr Thr Ser  Thr Pro Trp
    9095             9100              9105

Thr Ser  Thr Val Asp Leu Gly  Thr Ser Gly Thr Pro  Ser Pro Val
    9110             9115              9120

Pro Ser  Pro Thr Thr Ala Gly  Pro Leu Leu Val Pro  Phe Thr Leu
    9125             9130              9135

Asn Phe  Thr Ile Thr Asn Leu  Gln Tyr Glu Glu Asp  Met His Arg
    9140             9145              9150

Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu Arg Val  Leu Gln Gly
    9155             9160              9165

Leu Leu  Thr Pro Leu Phe Arg  Asn Thr Ser Val Ser  Ser Leu Tyr
    9170             9175              9180

Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro Glu Lys  Asp Gly Ala
    9185             9190              9195

Ala Thr  Arg Val Asp Ala Val  Cys Thr His Arg Pro  Asp Pro Lys
    9200             9205              9210

Ser Pro  Gly Leu Asp Arg Glu  Xaa Leu Tyr Trp Glu  Leu Ser Xaa
    9215             9220              9225

Leu Thr  Xaa Xaa Ile Xaa Glu  Leu Gly Pro Tyr Xaa  Leu Asp Arg
    9230             9235              9240

Xaa Ser  Leu Tyr Val Asn Gly  Phe Xaa Xaa Xaa Xaa  Xaa Xaa Xaa
    9245             9250              9255

Xaa Thr  Ser Thr Pro Gly Thr  Ser Xaa Val Xaa Leu  Xaa Thr Ser
    9260             9265              9270

Gly Thr  Pro Xaa Xaa Xaa Pro  Xaa Xaa Thr Xaa Xaa  Xaa Pro Leu
    9275             9280              9285

Leu Xaa  Pro Phe Thr Leu Asn  Phe Thr Ile Thr Asn  Leu Xaa Tyr
    9290             9295              9300

Glu Glu  Xaa Met Xaa Xaa Pro  Gly Ser Arg Lys Phe  Asn Thr Thr
    9305             9310              9315

Glu Arg  Val Leu Gln Gly Leu  Leu Xaa Pro Xaa Phe  Lys Xaa Thr
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      9320                  9325                    9330
Ser Val  Gly Xaa Leu Tyr Ser  Gly Cys Arg Leu Thr  Leu Leu Arg
      9335                  9340                    9345

Xaa Glu  Lys Xaa Xaa Ala Ala  Thr Xaa Val Asp Xaa  Xaa Cys Xaa
      9350                  9355                    9360

Xaa Xaa  Xaa Asp Pro Xaa Xaa  Pro Gly Leu Asp Arg  Glu Xaa Leu
      9365                  9370                    9375

Tyr Trp  Glu Leu Ser Xaa Leu  Thr Xaa Xaa Ile Xaa  Glu Leu Gly
      9380                  9385                    9390

Pro Tyr  Xaa Leu Asp Arg Xaa  Ser Leu Tyr Val Asn  Gly Phe Thr
      9395                  9400                    9405

His Trp  Ile Pro Val Pro Thr  Ser Ser Thr Pro Gly  Thr Ser Thr
      9410                  9415                    9420

Val Asp  Leu Gly Ser Gly Thr  Pro Ser Ser Leu Pro  Ser Pro Thr
      9425                  9430                    9435

Thr Ala  Gly Pro Leu Leu Val  Pro Phe Thr Leu Asn  Phe Thr Ile
      9440                  9445                    9450

Thr Asn  Leu Gln Tyr Gly Glu  Asp Met Gly His Pro  Gly Ser Arg
      9455                  9460                    9465

Lys Phe  Asn Thr Thr Glu Arg  Val Leu Gln Gly Leu  Leu Gly Pro
      9470                  9475                    9480

Ile Phe  Lys Asn Thr Ser Val  Gly Pro Leu Tyr Ser  Gly Cys Arg
      9485                  9490                    9495

Leu Thr  Ser Leu Arg Ser Glu  Lys Asp Gly Ala Ala  Thr Gly Val
      9500                  9505                    9510

Asp Ala  Ile Cys Ile His His  Leu Asp Pro Lys Ser  Pro Gly Leu
      9515                  9520                    9525

Asp Arg  Glu Xaa Leu Tyr Trp  Glu Leu Ser Xaa Leu  Thr Xaa Xaa
      9530                  9535                    9540

Ile Xaa  Glu Leu Gly Pro Tyr  Xaa Leu Asp Arg Xaa  Ser Leu Tyr
      9545                  9550                    9555

Val Asn  Gly Phe Xaa Xaa Xaa  Xaa Xaa Xaa Xaa Xaa  Thr Ser Thr
      9560                  9565                    9570

Pro Gly  Thr Ser Xaa Val Xaa  Leu Xaa Thr Ser Gly  Thr Pro Xaa
      9575                  9580                    9585

Xaa Xaa  Pro Xaa Xaa Thr Xaa  Xaa Xaa Pro Leu Leu  Xaa Pro Phe
      9590                  9595                    9600

Thr Leu  Asn Phe Thr Ile Thr  Asn Leu Xaa Tyr Glu  Glu Xaa Met
      9605                  9610                    9615
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Xaa Xaa  Pro Gly Ser Arg Lys  Phe Asn Thr Thr Glu  Arg Val Leu
    9620                9625                9630

Gln Gly  Leu Leu Xaa Pro Xaa  Phe Lys Xaa Thr Ser  Val Gly Xaa
    9635                9640                9645

Leu Tyr  Ser Gly Cys Arg Leu  Thr Leu Leu Arg Xaa  Glu Lys Xaa
    9650                9655                9660

Xaa Ala  Ala Thr Xaa Val Asp  Xaa Xaa Cys Xaa Xaa  Xaa Xaa Asp
    9665                9670                9675

Pro Xaa  Xaa Pro Gly Leu Asp  Arg Glu Xaa Leu Tyr  Trp Glu Leu
    9680                9685                9690

Ser Xaa  Leu Thr Xaa Xaa Ile  Xaa Glu Leu Gly Pro  Tyr Xaa Leu
    9695                9700                9705

Asp Arg  Xaa Ser Leu Tyr Val  Asn Gly Phe Thr His  Gln Thr Phe
    9710                9715                9720

Ala Pro  Asn Thr Ser Thr Pro  Gly Thr Ser Thr Val  Asp Leu Gly
    9725                9730                9735

Thr Ser  Gly Thr Pro Ser Ser  Leu Pro Ser Pro Thr  Ser Ala Gly
    9740                9745                9750

Pro Leu  Leu Val Pro Phe Thr  Leu Asn Phe Thr Ile  Thr Asn Leu
    9755                9760                9765

Gln Tyr  Glu Glu Asp Met His  His Pro Gly Ser Arg  Lys Phe Asn
    9770                9775                9780

Thr Thr  Glu Arg Val Leu Gln  Gly Leu Leu Gly Pro  Met Phe Lys
    9785                9790                9795

Asn Thr  Ser Val Gly Leu Leu  Tyr Ser Gly Cys Arg  Leu Thr Leu
    9800                9805                9810

Leu Arg  Pro Glu Lys Asn Gly  Ala Ala Thr Arg Val  Asp Ala Val
    9815                9820                9825

Cys Thr  His Arg Pro Asp Pro  Lys Ser Pro Gly Leu  Asp Arg Glu
    9830                9835                9840

Xaa Leu  Tyr Trp Glu Leu Ser  Xaa Leu Thr Xaa Xaa  Ile Xaa Glu
    9845                9850                9855

Leu Gly  Pro Tyr Xaa Leu Asp  Arg Xaa Ser Leu Tyr  Val Asn Gly
    9860                9865                9870

Phe Xaa  Xaa Xaa Xaa Xaa Xaa  Xaa Xaa Thr Ser Thr  Pro Gly Thr
    9875                9880                9885

Ser Xaa  Val Xaa Leu Xaa Thr  Ser Gly Thr Pro Xaa  Xaa Xaa Pro
    9890                9895                9900

Xaa Xaa  Thr Ala Pro Val Pro  Leu Leu Ile Pro Phe  Thr Leu Asn
    9905                9910                9915
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Phe Thr  Ile Thr Asn Leu His  Tyr Glu Glu Asn Met  Gln His Pro
    9920             9925             9930

Gly Ser  Arg Lys Phe Asn Thr  Thr Glu Arg Val Leu  Gln Gly Leu
    9935             9940             9945

Leu Arg  Pro Leu Phe Lys Ser  Thr Ser Val Gly Pro  Leu Tyr Ser
    9950             9955             9960

Gly Cys  Arg Leu Thr Leu Leu  Arg Pro Glu Lys His  Gly Ala Ala
    9965             9970             9975

Thr Gly  Val Asp Ala Ile Cys  Thr Leu Arg Leu Asp  Pro Thr Gly
    9980             9985             9990

Pro Gly  Leu Asp Arg Glu Arg  Leu Tyr Trp Glu Leu  Ser Gln Leu
    9995             10000            10005

Thr Asn  Ser Val Thr Glu Leu  Gly Pro Tyr Thr Leu  Asp Arg Asp
    10010            10015            10020

Ser Leu  Tyr Val Asn Gly Phe  Thr Gln Arg Ser Ser  Val Pro Thr
    10025            10030            10035

Thr Ser  Ile Pro Gly Thr Ser  Ala Val His Leu Glu  Thr Ser Gly
    10040            10045            10050

Thr Pro  Ala Ser Leu Pro Gly  His Thr Ala Pro Gly  Pro Leu Leu
    10055            10060            10065

Val Pro  Phe Thr Leu Asn Phe  Thr Ile Thr Asn Leu  Gln Tyr Glu
    10070            10075            10080

Val Asp  Met Arg His Pro Gly  Ser Arg Lys Phe Asn  Thr Thr Glu
    10085            10090            10095

Arg Val  Leu Gln Gly Leu Leu  Lys Pro Leu Phe Lys  Ser Thr Ser
    10100            10105            10110

Val Gly  Pro Leu Tyr Ser Gly  Cys Arg Leu Thr Leu  Leu Arg Pro
    10115            10120            10125

Glu Lys  Arg Gly Ala Ala Thr  Gly Val Asp Thr Ile  Cys Thr His
    10130            10135            10140

Arg Leu  Asp Pro Leu Asn Pro  Gly Leu Asp Arg Glu  Gln Leu Tyr
    10145            10150            10155

Trp Glu  Leu Ser Lys Leu Thr  Arg Gly Ile Ile Glu  Leu Gly Pro
    10160            10165            10170

Tyr Leu  Leu Asp Arg Gly Ser  Leu Tyr Val Asn Gly  Phe Thr His
    10175            10180            10185

Arg Asn  Phe Val Pro Ile Thr  Ser Thr Pro Gly Thr  Ser Thr Val
    10190            10195            10200

His Leu  Gly Thr Ser Glu Thr  Pro Ser Ser Leu Pro  Arg Pro Ile
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          10205                   10210                   10215
Val Pro   Gly Pro Leu Leu Val   Pro Phe Thr Leu Asn   Phe Thr Ile
     10220                   10225                   10230

Thr Asn   Leu Gln Tyr Glu Glu   Ala Met Arg His Pro   Gly Ser Arg
     10235                   10240                   10245

Lys Phe   Asn Thr Thr Glu Arg   Val Leu Gln Gly Leu   Leu Arg Pro
     10250                   10255                   10260

Leu Phe   Lys Asn Thr Ser Ile   Gly Pro Leu Tyr Ser   Ser Cys Arg
     10265                   10270                   10275

Leu Thr   Leu Leu Arg Pro Glu   Lys Asp Lys Ala Ala   Thr Arg Val
     10280                   10285                   10290

Asp Ala   Ile Cys Thr His His   Pro Asp Pro Gln Ser   Pro Gly Leu
     10295                   10300                   10305

Asn Arg   Glu Gln Leu Tyr Trp   Glu Leu Ser Gln Leu   Thr His Gly
     10310                   10315                   10320

Ile Thr   Glu Leu Gly Pro Tyr   Thr Leu Asp Arg Asp   Ser Leu Tyr
     10325                   10330                   10335

Val Asp   Gly Phe Thr His Trp   Ser Pro Ile Pro Thr   Thr Ser Thr
     10340                   10345                   10350

Pro Gly   Thr Ser Ile Val Asn   Leu Gly Thr Ser Gly   Ile Pro Pro
     10355                   10360                   10365

Ser Leu   Pro Glu Thr Thr Xaa   Xaa Xaa Pro Leu Leu   Xaa Pro Phe
     10370                   10375                   10380

Thr Leu   Asn Phe Thr Ile Thr   Asn Leu Xaa Tyr Glu   Glu Xaa Met
     10385                   10390                   10395

Xaa Xaa   Pro Gly Ser Arg Lys   Phe Asn Thr Thr Glu   Arg Val Leu
     10400                   10405                   10410

Gln Gly   Leu Leu Lys Pro Leu   Phe Lys Ser Thr Ser   Val Gly Pro
     10415                   10420                   10425

Leu Tyr   Ser Gly Cys Arg Leu   Thr Leu Leu Arg Pro   Glu Lys Asp
     10430                   10435                   10440

Gly Val   Ala Thr Arg Val Asp   Ala Ile Cys Thr His   Arg Pro Asp
     10445                   10450                   10455

Pro Lys   Ile Pro Gly Leu Asp   Arg Gln Gln Leu Tyr   Trp Glu Leu
     10460                   10465                   10470

Ser Gln   Leu Thr His Ser Ile   Thr Glu Leu Gly Pro   Tyr Thr Leu
     10475                   10480                   10485

Asp Arg   Asp Ser Leu Tyr Val   Asn Gly Phe Thr Gln   Arg Ser Ser
     10490                   10495                   10500
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Val Pro    Thr Thr Ser Thr Pro    Gly Thr Phe Thr Val    Gln Pro Glu
    10505               10510               10515

Thr Ser    Glu Thr Pro Ser Ser    Leu Pro Gly Pro Thr    Ala Thr Gly
    10520               10525               10530

Pro Val    Leu Leu Pro Phe Thr    Leu Asn Phe Thr Ile    Thr Asn Leu
    10535               10540               10545

Gln Tyr    Glu Glu Asp Met His    Arg Pro Gly Ser Arg    Lys Phe Asn
    10550               10555               10560

Thr Thr    Glu Arg Val Leu Gln    Gly Leu Leu Met Pro    Leu Phe Lys
    10565               10570               10575

Asn Thr    Ser Val Ser Ser Leu    Tyr Ser Gly Cys Arg    Leu Thr Leu
    10580               10585               10590

Leu Arg    Pro Glu Lys Asp Gly    Ala Ala Thr Arg Val    Asp Ala Val
    10595               10600               10605

Cys Thr    His Arg Pro Asp Pro    Lys Ser Pro Gly Leu    Asp Arg Glu
    10610               10615               10620

Arg Leu    Tyr Trp Lys Leu Ser    Gln Leu Thr His Gly    Ile Thr Glu
    10625               10630               10635

Leu Gly    Pro Tyr Thr Leu Asp    Arg His Ser Leu Tyr    Val Asn Gly
    10640               10645               10650

Phe Thr    His Gln Ser Ser Met    Thr Thr Thr Arg Thr    Pro Asp Thr
    10655               10660               10665

Ser Thr    Met His Leu Ala Thr    Ser Arg Thr Pro Ala    Ser Leu Ser
    10670               10675               10680

Gly Pro    Thr Thr Ala Ser Pro    Leu Leu Val Leu Phe    Thr Ile Asn
    10685               10690               10695

Phe Thr    Ile Thr Asn Leu Arg    Tyr Glu Glu Asn Met    His His Pro
    10700               10705               10710

Gly Ser    Arg Lys Phe Asn Thr    Thr Glu Arg Val Leu    Gln Gly Leu
    10715               10720               10725

Leu Arg    Pro Val Phe Lys Asn    Thr Ser Val Gly Pro    Leu Tyr Ser
    10730               10735               10740

Gly Cys    Arg Leu Thr Leu Leu    Arg Pro Lys Lys Asp    Gly Ala Ala
    10745               10750               10755

Thr Lys    Val Asp Ala Ile Cys    Thr Tyr Arg Pro Asp    Pro Lys Ser
    10760               10765               10770

Pro Gly    Leu Asp Arg Glu Gln    Leu Tyr Trp Glu Leu    Ser Gln Leu
    10775               10780               10785

Thr His    Ser Ile Thr Glu Leu    Gly Pro Tyr Thr Gln    Asp Arg Asp
    10790               10795               10800
```

Ser Leu   Tyr Asn Val Gly Phe   Thr Gln Arg Ser Ser   Val Pro Thr
    10805   10810   10815

Thr Ser   Val Pro Gly Thr Pro   Thr Val Asp Leu Gly   Thr Ser Gly
    10820   10825   10830

Thr Pro   Val Ser Lys Pro Gly   Pro Ser Ala Ala Ser   Pro Leu Leu
    10835   10840   10845

Val Leu   Phe Thr Leu Asn Gly   Thr Ile Thr Asn Leu   Arg Tyr Glu
    10850   10855   10860

Glu Asn   Met Gln His Pro Gly   Ser Arg Lys Phe Asn   Thr Thr Glu
    10865   10870   10875

Arg Val   Leu Gln Gly Leu Leu   Arg Ser Leu Phe Lys   Ser Thr Ser
    10880   10885   10890

Val Gly   Pro Leu Tyr Ser Gly   Cys Arg Leu Thr Leu   Leu Arg Pro
    10895   10900   10905

Glu Lys   Asp Gly Thr Ala Thr   Gly Val Asp Ala Ile   Cys Thr His
    10910   10915   10920

His Pro   Asp Pro Lys Ser Pro   Arg Leu Asp Arg Glu   Gln Leu Tyr
    10925   10930   10935

Trp Glu   Leu Ser Gln Leu Thr   His Asn Ile Thr Glu   Leu Gly His
    10940   10945   10950

Tyr Ala   Leu Asp Asn Asp Ser   Leu Phe Val Asn Gly   Phe Thr His
    10955   10960   10965

Arg Ser   Ser Val Ser Thr Thr   Ser Thr Pro Gly Thr   Pro Thr Val
    10970   10975   10980

Tyr Leu   Gly Ala Ser Lys Thr   Pro Ala Ser Ile Phe   Gly Pro Ser
    10985   10990   10995

Ala Ala   Ser His Leu Leu Ile   Leu Phe Thr Leu Asn   Phe Thr Ile
    11000   11005   11010

Thr Asn   Leu Arg Tyr Glu Glu   Asn Met Trp Pro Gly   Ser Arg Lys
    11015   11020   11025

Phe Asn   Thr Thr Glu Arg Val   Leu Gln Gly Leu Leu   Arg Pro Leu
    11030   11035   11040

Phe Lys   Asn Thr Ser Val Gly   Pro Leu Tyr Ser Gly   Ser Arg Leu
    11045   11050   11055

Thr Leu   Leu Arg Pro Glu Lys   Asp Gly Glu Ala Thr   Gly Val Asp
    11060   11065   11070

Ala Ile   Cys Thr His Arg Pro   Asp Pro Thr Gly Pro   Gly Leu Asp
    11075   11080   11085

Arg Glu   Gln Leu Tyr Leu Glu   Leu Ser Gln Leu Thr   His Ser Ile

```
        11090                  11095                      11100
Thr Glu   Leu Gly Pro Tyr Thr   Leu Asp Arg Asp Ser   Leu Tyr Val
        11105                  11110                      11115
Asn Gly   Phe Thr His Arg Ser   Ser Val Pro Thr Thr   Ser Thr Gly
        11120                  11125                      11130
Val Val   Ser Glu Glu Pro Phe   Thr Leu Asn Phe Thr   Ile Asn Asn
        11135                  11140                      11145
Leu Arg   Tyr Met Ala Asp Met   Gly Gln Pro Gly Ser   Leu Lys Phe
        11150                  11155                      11160
Asn Ile   Thr Asp Asn Val Met   Lys His Leu Leu Ser   Pro Leu Phe
        11165                  11170                      11175
Gln Arg   Ser Ser Leu Gly Ala   Arg Tyr Thr Gly Cys   Arg Val Ile
        11180                  11185                      11190
Ala Leu   Arg Ser Val Lys Asn   Gly Ala Glu Thr Arg   Val Asp Leu
        11195                  11200                      11205
Leu Cys   Thr Tyr Leu Gln Pro   Leu Ser Gly Pro Gly   Leu Pro Ile
        11210                  11215                      11220
Lys Gln   Val Phe His Glu Leu   Ser Gln Gln Thr His   Gly Ile Thr
        11225                  11230                      11235
Arg Leu   Gly Pro Tyr Ser Leu   Asp Lys Asp Ser Leu   Tyr Leu Asn
        11240                  11245                      11250
Gly Tyr   Asn Glu Pro Gly Leu   Asp Glu Pro Pro Thr   Thr Pro Lys
        11255                  11260                      11265
Pro Ala   Thr Thr Phe Leu Pro   Pro Leu Ser Glu Ala   Thr Thr Ala
        11270                  11275                      11280
Met Gly   Tyr His Leu Lys Thr   Leu Thr Leu Asn Phe   Thr Ile Ser
        11285                  11290                      11295
Asn Leu   Gln Tyr Ser Pro Asp   Met Gly Lys Gly Ser   Ala Thr Phe
        11300                  11305                      11310
Asn Ser   Thr Glu Gly Val Leu   Gln His Leu Leu Arg   Pro Leu Phe
        11315                  11320                      11325
Gln Lys   Ser Ser Met Gly Pro   Phe Tyr Leu Gly Cys   Gln Leu Ile
        11330                  11335                      11340
Ser Leu   Arg Pro Glu Lys Asp   Gly Ala Ala Thr Gly   Val Asp Thr
        11345                  11350                      11355
Thr Cys   Thr Tyr His Pro Asp   Pro Val Gly Pro Gly   Leu Asp Ile
        11360                  11365                      11370
Gln Gln   Leu Tyr Trp Glu Leu   Ser Gln Leu Thr His   Gly Val Thr
        11375                  11380                      11385
```

Gln Leu   Gly Phe Tyr Val Leu   Asp Arg Asp Ser Leu   Phe Ile Asn
    11390   11395   11400

Gly Tyr   Ala Pro Gln Asn Leu   Ser Ile Arg Gly Glu   Tyr Gln Ile
    11405   11410   11415

Asn Phe   His Ile Val Asn Trp   Asn Leu Ser Asn Pro   Asp Pro Thr
    11420   11425   11430

Ser Ser   Glu Tyr Ile Thr Leu   Leu Arg Asp Ile Gln   Asp Lys Val
    11435   11440   11445

Thr Thr   Leu Tyr Lys Gly Ser   Gln Leu His Asp Thr   Phe Arg Phe
    11450   11455   11460

Cys Leu   Val Thr Asn Leu Thr   Met Asp Ser Val Leu   Val Thr Val
    11465   11470   11475

Lys Ala   Leu Phe Ser Ser Asn   Leu Asp Pro Ser Leu   Val Glu Gln
    11480   11485   11490

Val Phe   Leu Asp Lys Thr Leu   Asn Ala Ser Phe His   Trp Leu Gly
    11495   11500   11505

Ser Thr   Tyr Gln Leu Val Asp   Ile His Val Thr Glu   Met Glu Ser
    11510   11515   11520

Ser Val   Tyr Gln Pro Thr Ser   Ser Ser Ser Thr Gln   His Phe Tyr
    11525   11530   11535

Leu Asn   Phe Thr Ile Thr Asn   Leu Pro Tyr Ser Gln   Asp Lys Ala
    11540   11545   11550

Gln Pro   Gly Thr Thr Asn Tyr   Gln Arg Asn Lys Arg   Asn Ile Glu
    11555   11560   11565

Asp Ala   Leu Asn Gln Leu Phe   Arg Asn Ser Ser Ile   Lys Ser Tyr
    11570   11575   11580

Phe Ser   Asp Cys Gln Val Ser   Thr Phe Arg Ser Val   Pro Asn Arg
    11585   11590   11595

His His   Thr Gly Val Asp Ser   Leu Cys Asn Phe Ser   Pro Leu Ala
    11600   11605   11610

Arg Arg   Val Asp Arg Val Ala   Ile Tyr Glu Glu Phe   Leu Arg Met
    11615   11620   11625

Thr Arg   Asn Gly Thr Gln Leu   Gln Asn Phe Thr Leu   Asp Arg Ser
    11630   11635   11640

Ser Val   Leu Val Asp Gly Tyr   Ser Pro Asn Arg Asn   Glu Pro Leu
    11645   11650   11655

Thr Gly   Asn Ser Asp Leu Pro   Phe Trp Ala Val Ile   Leu Ile Gly
    11660   11665   11670

Leu Ala   Gly Leu Leu Gly Leu   Ile Thr Cys Leu Ile   Cys Gly Val
    11675   11680   11685

```
Leu Val   Thr Thr Arg Arg Arg   Lys Lys Glu Gly Glu   Tyr Asn Val
    11690               11695               11700

Gln Gln   Gln Cys Pro Gly Tyr   Tyr Gln Ser His Leu   Asp Leu Glu
    11705               11710               11715

Asp Leu   Gln
    11720
```

<210> 163

<211> 156

<212> PRT

<213> Homo sapiens

<400> 163

```
Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys
        35                  40                  45

Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu
    50                  55                  60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu
65                  70                  75                  80

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr
                85                  90                  95

Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr
            100                 105                 110

Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn
        115                 120                 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala
    130                 135                 140

Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr
145                 150                 155
```

<210> 164

<211> 42

<212> PRT

<213> Homo sapiens

<400> 164

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu
        35   40

<210> 165

<211> 42

<212> PRT

<213> Homo sapiens

<400> 165

Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35   40

<210> 166

<211> 42

<212> PRT

<213> Homo sapiens

<400> 166

Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35   40

<210> 167

<211> 42

<212> PRT

<213> Homo sapiens

<400> 167

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
                20   25   30

Ser Thr Thr Glu Arg Val Leu Gln Gly Leu
            35   40

<210> 168

<211> 42

<212> PRT

<213> Homo sapiens

<400> 168

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
                20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
            35   40

<210> 169

<211> 42

<212> PRT

<213> Homo sapiens

<400> 169

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Val Asp Met Arg His Pro Gly Ser Arg Lys Phe
                20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

          35   40

<210> 170

<211> 42

<212> PRT

<213> Homo sapiens

<400> 170

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
         35   40

<210> 171

<211> 42

<212> PRT

<213> Homo sapiens

<400> 171

Ala Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu
         35   40

<210> 172

<211> 42

<212> PRT

<213> Homo sapiens

<400> 172

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr Ile Thr
1   5   10   15

```
Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu
        35                  40
```

<210> 173

<211> 42

<212> PRT

<213> Homo sapiens

<400> 173

```
Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                  10                  15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40
```

<210> 174

<211> 42

<212> PRT

<213> Homo sapiens

<400> 174

```
Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                  10                  15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40
```

<210> 175

<211> 42

<212> PRT

<213> Homo sapiens

<400> 175
```

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40

<210>  176

<211>  42

<212>  PRT

<213>  Homo sapiens

<400>  176

Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Thr Leu
        35                  40

<210>  177

<211>  42

<212>  PRT

<213>  Homo sapiens

<400>  177

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu
        35                  40

<210>  178

<211>  42

<212>  PRT

<213> Homo sapiens

<400> 178

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40

<210> 179

<211> 42

<212> PRT

<213> Homo sapiens

<400> 179

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40

<210> 180

<211> 42

<212> PRT

<213> Homo sapiens

<400> 180

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40

<210> 181

<211> 42

<212> PRT

<213> Homo sapiens


<400> 181

```
Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40
```

<210> 182

<211> 42

<212> PRT

<213> Homo sapiens

<400> 182

```
Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40
```

<210> 183

<211> 42

<212> PRT

<213> Homo sapiens

<400> 183

```
Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10                  15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe
            20                  25                  30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
```

          35   40

<210> 184

<211> 42

<212> PRT

<213> Homo sapiens

<400> 184

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr
1   5   10   15

Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35   40

<210> 185

<211> 42

<212> PRT

<213> Homo sapiens

<400> 185

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35   40

<210> 186

<211> 42

<212> PRT

<213> Homo sapiens

<400> 186

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35   40

<210> 187

<211> 42

<212> PRT

<213> Homo sapiens

<400> 187

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35   40

<210> 188

<211> 42

<212> PRT

<213> Homo sapiens

<400> 188

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
            20   25   30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35   40

<210> 189

<211> 42

<212> PRT

<213> Homo sapiens

<400> 189

```
Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10              15

Asp Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
            20                  25              30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40
```

<210> 190

<211> 42

<212> PRT

<213> Homo sapiens

<400> 190

```
Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Gly Thr Ile Thr
1               5                   10              15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe
            20                  25              30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
        35                  40
```

<210> 191

<211> 42

<212> PRT

<213> Homo sapiens

<400> 191

```
Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr
1               5                   10              15

Asn Leu Lys Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe
            20                  25              30

Asn Thr Thr Glu Arg Val Leu Gln Ser Leu
        35                  40
```

<210> 192

<211> 41

<212> PRT

<213> Homo sapiens

<400> 192

Ala Ala Ser His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile Thr
1   5   10   15

Asn Leu Arg Tyr Glu Glu Asn Met Trp Pro Gly Ser Arg Lys Phe Asn
            20   25   30

Thr Thr Glu Arg Val Leu Gln Gly Leu
            35   40

<210> 193

<211> 42

<212> PRT

<213> Homo sapiens

<400> 193

Thr Gly Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn
1   5   10   15

Asn Leu Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe
            20   25   30

Asn Ile Thr Asp Asn Val Met Lys His Leu
            35   40

<210> 194

<211> 42

<212> PRT

<213> Homo sapiens

<400> 194

Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser
1   5   10   15

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn
            20   25   30

Ser Thr Glu Gly Val Leu Gln His Leu Leu
            35   40

<210> 195

<211> 23

<212> PRT

<213> Homo sapiens

<400> 195

Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Ala Ser Leu Arg
                20

<210> 196

<211> 23

<212> PRT

<213> Homo sapiens

<400> 196

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
                20

<210> 197

<211> 23

<212> PRT

<213> Homo sapiens

<400> 197

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
                20

<210> 198

<211> 23

<212> PRT

<213> Homo sapiens

<400> 198

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
            20

<210> 199

<211> 23

<212> PRT

<213> Homo sapiens

<400> 199

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Ser
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
            20

<210> 200

<211> 23

<212> PRT

<213> Homo sapiens

<400> 200

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Ser Leu Arg
            20

<210> 201

<211> 23

<212> PRT

<213> Homo sapiens

<400> 201

Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Ser Leu Arg
            20

<210> 202

<211> 23

<212> PRT

<213> Homo sapiens

<400> 202

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
            20

<210> 203

<211> 23

<212> PRT

<213> Homo sapiens

<400> 203

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
            20

<210> 204

<211> 23

<212> PRT

<213> Homo sapiens

<400> 204

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Ser Leu Arg

                20

<210> 205

<211> 23

<212> PRT

<213> Homo sapiens

<400> 205

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Ile Ser Leu Arg
                20

<210> 206

<211> 23

<212> PRT

<213> Homo sapiens

<400> 206

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Asp Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Ser Leu Arg
                20

<210> 207

<211> 23

<212> PRT

<213> Homo sapiens

<400> 207

Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Ser Leu Arg
                20

<210> 208

<211> 23

<212> PRT

<213> Homo sapiens

<400> 208

Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
            20

<210> 209

<211> 23

<212> PRT

<213> Homo sapiens

<400> 209

Leu Ser Pro Leu Phe Gln Arg Ser Ser Leu Gly Ala Arg Tyr Thr Gly
1   5   10   15

Cys Arg Val Ile Ala Leu Arg
            20

<210> 210

<211> 23

<212> PRT

<213> Homo sapiens

<400> 210

Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
            20

<210> 211

<211> 23

<212> PRT

<213> Homo sapiens

<400> 211

Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Ser Arg Leu Thr Leu Leu Arg
            20

<210> 212

<211> 23

<212> PRT

<213> Homo sapiens

<400> 212

Leu Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
            20

<210> 213

<211> 23

<212> PRT

<213> Homo sapiens

<400> 213

Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
1   5   10   15

Cys Arg Leu Thr Leu Leu Arg
            20

<210> 214

<211> 23

<212> PRT

<213> Homo sapiens

<400> 214

```
Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
1               5                   10                  15

Cys Arg Leu Thr Leu Leu Arg
            20
```

<210> 215

<211> 23

<212> PRT

<213> Homo sapiens

<400> 215

```
Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
1               5                   10                  15

Cys Arg Leu Thr Leu Leu Arg
            20
```

<210> 216

<211> 23

<212> PRT

<213> Homo sapiens

<400> 216

```
Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
1               5                   10                  15

Cys Arg Leu Thr Leu Leu Arg
            20
```

<210> 217

<211> 23

<212> PRT

<213> Homo sapiens

<400> 217

```
Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
1               5                   10                  15

Cys Arg Leu Thr Ser Leu Arg
```

```
                    20

    <210>  218

    <211>  23

    <212>  PRT

    <213>  Homo sapiens


    <400>  218

    Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
    1               5                   10                  15

    Cys Arg Leu Thr Leu Leu Arg
                20

    <210>  219

    <211>  23

    <212>  PRT

    <213>  Homo sapiens


    <400>  219

    Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
    1               5                   10                  15

    Cys Arg Leu Thr Leu Leu Arg
                20

    <210>  220

    <211>  23

    <212>  PRT

    <213>  Homo sapiens


    <400>  220

    Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
    1               5                   10                  15

    Cys Arg Leu Thr Leu Leu Arg
                20

    <210>  221
```

<211> 22

<212> PRT

<213> Homo sapiens

<400> 221

Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys
1   5   10   15

Gln Leu Ile Ser Leu Arg
            20

<210> 222

<211> 58

<212> PRT

<213> Homo sapiens

<400> 222

Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His
1   5   10   15

Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp
            20   25   30

Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr
            35   40   45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50   55

<210> 223

<211> 58

<212> PRT

<213> Homo sapiens

<400> 223

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1   5   10   15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
            20   25   30

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr

```
            35                    40                    45
Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
     50                    55
```

<210> 224

<211> 58

<212> PRT

<213> Homo sapiens

<400> 224

```
Pro Lys Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1                   5                   10                  15
Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
                20                  25                  30
Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr
            35                  40                  45
Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
     50                  55
```

<210> 225

<211> 58

<212> PRT

<213> Homo sapiens

<400> 225

```
Pro Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His
1                   5                   10                  15
His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp
                20                  25                  30
Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala
            35                  40                  45
Leu Asp Asn Asp Ser Leu Phe Val Asn Gly
     50                  55
```

<210> 226

<211> 58

<212> PRT

<213> Homo sapiens

<400> 226

Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp Ala Ile Cys Thr His
1   5   10   15

Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln Leu Tyr Leu
            20   25   30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35   40   45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
    50   55

<210> 227

<211> 58

<212> PRT

<213> Homo sapiens

<400> 227

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr
1   5   10   15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
            20   25   30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser
        35   40   45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
    50   55

<210> 228

<211> 58

<212> PRT

<213> Homo sapiens

<400> 228

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr
1   5   10   15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys
            20   25   30

```
Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser
        35                  40                  45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 229

<211> 58

<212> PRT

<213> Homo sapiens

<400> 229

```
Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr
1               5                   10                  15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
            20                  25                  30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35                  40                  45

Leu Asp Arg Val Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 230

<211> 58

<212> PRT

<213> Homo sapiens

<400> 230

```
Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr
1               5                   10                  15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
            20                  25                  30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35                  40                  45

Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 231

<211> 58

<212> PRT

<213> Homo sapiens

<400> 231

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr
1   5   10   15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
            20   25   30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35   40   45

Gln Asp Arg Asp Ser Leu Tyr Asn Val Gly
        50   55

<210> 232

<211> 58

<212> PRT

<213> Homo sapiens

<400> 232

Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His
1   5   10   15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
            20   25   30

Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr
        35   40   45

Leu Asp Arg His Ser Leu Tyr Val Asn Gly
        50   55

<210> 233

<211> 58

<212> PRT

<213> Homo sapiens

<400> 233

Pro Glu Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His
1   5   10   15

```
Arg Pro Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp
            20              25              30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35              40              45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
    50              55
```

<210> 234

<211> 58

<212> PRT

<213> Homo sapiens

<400> 234

```
Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His
1               5               10              15

His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp
            20              25              30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
        35              40              45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50              55
```

<210> 235

<211> 58

<212> PRT

<213> Homo sapiens

<400> 235

```
Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1               5               10              15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
            20              25              30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
        35              40              45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50              55
```

<210> 236

<211> 58

<212> PRT

<213> Homo sapiens

<400> 236

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1   5   10   15

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
            20   25   30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
        35   40   45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50   55

<210> 237

<211> 58

<212> PRT

<213> Homo sapiens

<400> 237

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
1   5   10   15

Arg Val Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
            20   25   30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
        35   40   45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50   55

<210> 238

<211> 58

<212> PRT

<213> Homo sapiens

<400> 238

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His

```
1                 5                    10                     15

His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
              20                  25                  30

Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
          35                  40                  45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 239

<211> 58

<212> PRT

<213> Homo sapiens

<400> 239

```
Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
1                 5                    10                     15

Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
              20                  25                  30

Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu
          35                  40                  45

Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 240

<211> 58

<212> PRT

<213> Homo sapiens

<400> 240

```
Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His
1                 5                    10                     15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
              20                  25                  30

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr
          35                  40                  45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 241

<211> 58

<212> PRT

<213> Homo sapiens

<400> 241

Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His
1   5   10   15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
            20   25   30

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr
        35   40   45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50   55

<210> 242

<211> 58

<212> PRT

<213> Homo sapiens

<400> 242

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu
1   5   10   15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
            20   25   30

Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr
        35   40   45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
    50   55

<210> 243

<211> 58

<212> PRT

<213> Homo sapiens

<400> 243

```
Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu
1               5                   10                  15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
            20                  25                  30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35                  40                  45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 244

<211> 58

<212> PRT

<213> Homo sapiens

<400> 244

```
Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
1               5                   10                  15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
            20                  25                  30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35                  40                  45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
    50                  55
```

<210> 245

<211> 58

<212> PRT

<213> Homo sapiens

<400> 245

```
Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
1               5                   10                  15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
            20                  25                  30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
        35                  40                  45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly
```

50   55

<210> 246

<211> 58

<212> PRT

<213> Homo sapiens

<400> 246

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His
1   5   10   15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
                20   25   30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
            35   40   45

Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly
    50   55

<210> 247

<211> 58

<212> PRT

<213> Homo sapiens

<400> 247

Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His
1   5   10   15

His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
                20   25   30

Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr
            35   40   45

Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly
    50   55

<210> 248

<211> 58

<212> PRT

<213> Homo sapiens

<400> 248

```
Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr
1               5                   10                  15

Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His
            20                  25                  30

Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser
        35                  40                  45

Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly
    50                  55
```

<210> 249

<211> 58

<212> PRT

<213> Homo sapiens

<400> 249

```
Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr
1               5                   10                  15

His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp
            20                  25                  30

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val
        35                  40                  45

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly
    50                  55
```

<210> 250

<211> 12

<212> PRT

<213> Homo sapiens

<400> 250

```
Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr
1               5                   10
```

<210> 251

<211> 12

<212> PRT

<213> Homo sapiens

<400> 251

Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Ile
1   5   10

<210> 252

<211> 12

<212> PRT

<213> Homo sapiens

<400> 252

Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr
1   5   10

<210> 253

<211> 12

<212> PRT

<213> Homo sapiens

<400> 253

Phe Thr His Arg Thr Ser Val Pro Thr Thr Ser Thr
1   5   10

<210> 254

<211> 12

<212> PRT

<213> Homo sapiens

<400> 254

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ser
1   5   10

<210> 255

<211> 12

<212> PRT

<213> Homo sapiens

<400> 255

Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr
1   5   10

<210> 256

<211> 12

<212> PRT

<213> Homo sapiens

<400> 256

Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
1   5   10

<210> 257

<211> 12

<212> PRT

<213> Homo sapiens

<400> 257

Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr
1   5   10

<210> 258

<211> 12

<212> PRT

<213> Homo sapiens

<400> 258

Phe Thr His Arg Ser Phe Gly Leu Thr Thr Ser Thr
1   5   10

<210> 259

<211> 12

<212> PRT

<213> Homo sapiens

<400> 259

Phe Thr His Arg Ser Ser Phe Leu Thr Thr Ser Thr
1   5   10

<210> 260

<211> 12

<212> PRT

<213> Homo sapiens

<400> 260

Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
1   5   10

<210> 261

<211> 12

<212> PRT

<213> Homo sapiens

<400> 261

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
1   5   10

<210> 262

<211> 12

<212> PRT

<213> Homo sapiens

<400> 262

Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
1   5   10

<210> 263

<211> 12

<212> PRT

<213> Homo sapiens

<400> 263

Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr
1   5   10

<210> 264

<211> 12

<212> PRT

<213> Homo sapiens

<400> 264

Phe Thr His Gln Thr Phe Ala Pro Asn Thr Ser Thr
1   5   10

<210> 265

<211> 12

<212> PRT

<213> Homo sapiens

<400> 265

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
1   5   10

<210> 266

<211> 12

<212> PRT

<213> Homo sapiens

<400> 266

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr

1   5   10

<210> 267

<211> 12

<212> PRT

<213> Homo sapiens

<400> 267

Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr
1   5   10

<210> 268

<211> 12

<212> PRT

<213> Homo sapiens

<400> 268

Phe Thr His Trp Ser Pro Ile Pro Thr Thr Ser Thr
1   5   10

<210> 269

<211> 12

<212> PRT

<213> Homo sapiens

<400> 269

Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser Thr
1   5   10

<210> 270

<211> 12

<212> PRT

<213> Homo sapiens

<400> 270

```
Phe His Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
1               5                   10
```

<210> 271

<211> 12

<212> PRT

<213> Homo sapiens

<400> 271

```
Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr
1               5                   10
```

<210> 272

<211> 12

<212> PRT

<213> Homo sapiens

<400> 272

```
Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr
1               5                   10
```

<210> 273

<211> 12

<212> PRT

<213> Homo sapiens

<400> 273

```
Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile
1               5                   10
```

<210> 274

<211> 12

<212> PRT

<213> Homo sapiens

<400> 274

```
Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Thr
1               5                   10
```

<210> 275

<211> 12

<212> PRT

<213> Homo sapiens

<400> 275

```
Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val
1               5                   10
```

<210> 276

<211> 12

<212> PRT

<213> Homo sapiens

<400> 276

```
Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr
1               5                   10
```

<210> 277

<211> 12

<212> PRT

<213> Homo sapiens

<400> 277

```
Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr
1               5                   10
```

<210> 278

<211> 21

<212> PRT

<213> Homo sapiens

<400> 278

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
1   5   10   15

Ser Pro Ser Pro Thr
            20

<210> 279

<211> 23

<212> PRT

<213> Homo sapiens

<400> 279

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
1   5   10   15

Leu Ser Ser Pro Thr Ile Met
            20

<210> 280

<211> 21

<212> PRT

<213> Homo sapiens

<400> 280

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser
1   5   10   15

Leu Pro Ser Pro Ala
            20

<210> 281

<211> 20

<212> PRT

<213> Homo sapiens

<400> 281

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu
1   5   10   15

```
Pro Ser Pro Thr
                20

<210>  282

<211>  20

<212>  PRT

<213>  Homo sapiens


<400>  282

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Leu Pro
1                   5                   10                  15

Ser Ser Pro Thr
                20

<210>  283

<211>  21

<212>  PRT

<213>  Homo sapiens


<400>  283

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
1                   5                   10                  15

Leu Pro Ser Pro Thr
                20

<210>  284

<211>  21

<212>  PRT

<213>  Homo sapiens


<400>  284

Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser
1                   5                   10                  15

Lys Pro Gly Pro Ser
                20

<210>  285
```

<211> 21

<212> PRT

<213> Homo sapiens

<400> 285

Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro
1   5   10   15

Val Pro Ser Pro Thr
            20

<210> 286

<211> 21

<212> PRT

<213> Homo sapiens

<400> 286

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
1   5   10   15

Phe Pro Gly His Thr
            20

<210> 287

<211> 21

<212> PRT

<213> Homo sapiens

<400> 287

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser
1   5   10   15

Leu Pro Gly His Thr
            20

<210> 288

<211> 21

<212> PRT

<213> Homo sapiens

<400> 288

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro
1   5   10   15

Leu Pro Gly His Thr
              20

<210> 289

<211> 21

<212> PRT

<213> Homo sapiens

<400> 289

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
1   5   10   15

Leu Ser Gly Pro Thr
              20

<210> 290

<211> 21

<212> PRT

<213> Homo sapiens

<400> 290

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser
1   5   10   15

Leu Pro Gly His Thr
              20

<210> 291

<211> 21

<212> PRT

<213> Homo sapiens

<400> 291

```
Pro Gly Thr Ser Ala Val His Leu Glu Thr Thr Gly Thr Pro Ser Ser
1               5                   10                  15

Phe Pro Gly His Thr
                20
```

<210> 292

<211> 21

<212> PRT

<213> Homo sapiens

<400> 292

```
Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
1               5                   10                  15

Leu Pro Arg Pro Ile
                20
```

<210> 293

<211> 21

<212> PRT

<213> Homo sapiens

<400> 293

```
Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly Ile Pro Pro Ser
1               5                   10                  15

Leu Pro Glu Thr Thr
                20
```

<210> 294

<211> 21

<212> PRT

<213> Homo sapiens

<400> 294

```
Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro Ser Ser
1               5                   10                  15

Leu Pro Gly Pro Thr
```

20

<210> 295

<211> 21

<212> PRT

<213> Homo sapiens

<400> 295

Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser
1   5   10   15

Lys Pro Gly Pro Ser
            20

<210> 296

<211> 21

<212> PRT

<213> Homo sapiens

<400> 296

Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser
1   5   10   15

Ile Phe Gly Pro Ser
            20

<210> 297

<211> 16

<212> PRT

<213> Homo sapiens

<400> 297

Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr
1   5   10   15

<210> 298

<211> 21

<212> PRT

<213> Homo sapiens

<400> 298

Gln Ile Asn Phe His Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro
1   5   10   15

Thr Ser Ser Glu Tyr
            20

<210> 299

<211> 1794

<212> PRT

<213> Homo sapiens

<400> 299

Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr
1   5   10   15

Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro
            20   25   30

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr
        35   40   45

Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr
    50   55   60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu
65   70   75   80

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile
                85   90   95

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu
            100   105   110

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr
        115   120   125

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser
    130   135   140

Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser
145   150   155   160

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu
                165   170   175

Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu
            180   185   190

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Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser
        195                 200                 205

Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr
        210                 215                 220

Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr
225                 230                 235                 240

Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr
            245                 250                 255

His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe
            260                 265                 270

Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly
        275                 280                 285

Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala
        290                 295                 300

Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn
305                 310                 315                 320

Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile
                325                 330                 335

Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro
            340                 345                 350

Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val
            355                 360                 365

Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn
        370                 375                 380

Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala
385                 390                 395                 400

Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser
                405                 410                 415

Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser
            420                 425                 430

Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val
        435                 440                 445

Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile
        450                 455                 460

Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met
465                 470                 475                 480

Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr
            485                 490                 495

Val Ser Pro Gly Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser
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                500                    505                    510
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Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly
        515   520   525

Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala
    530   535   540

Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr
545   550   555   560

Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr
            565   570   575

Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr
        580   585   590

Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu
        595   600   605

Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Gly Val Asn
    610   615   620

Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr
625   630   635   640

Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val
            645   650   655

Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu
        660   665   670

Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr
        675   680   685

Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His
    690   695   700

Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro
705   710   715   720

Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr
            725   730   735

Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr
        740   745   750

Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr
    755   760   765

Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr
    770   775   780

Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser
785   790   795   800

Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu
            805   810   815

Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe
            820   825   830

Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu
        835   840   845

Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro
    850   855   860

Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr
865   870   875   880

Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser
            885   890   895

Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro
        900   905   910

His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr
        915   920   925

Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro
    930   935   940

Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser
945   950   955   960

Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr
            965   970   975

Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr
        980   985   990

Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr
    995   1000   1005

Tyr Ser Glu Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val
    1010   1015   1020

Ser Pro Gly Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser
    1025   1030   1035

Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr Leu Ser Glu Thr Pro
    1040   1045   1050

Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu
    1055   1060   1065

Thr Asn Thr Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser
    1070   1075   1080

Lys Ser Asp Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro
    1085   1090   1095

Glu Ala Ser Ser Ala Val Ser Thr Thr Thr Ile Ser Pro Asp Met
    1100   1105   1110

Ser Asp Leu Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr
    1115   1120   1125

Ser Thr Thr Phe Pro Thr Leu Ser Glu Thr Pro Tyr Glu Pro Glu
    1130   1135   1140

Thr Thr Ala Thr Trp Leu Thr His Pro Ala Glu Thr Ser Thr Thr
    1145   1150   1155

Val Ser Gly Thr Ile Pro Asn Phe Ser His Arg Gly Ser Asp Thr
    1160   1165   1170

Ala Pro Ser Met Val Thr Ser Pro Gly Val Asp Thr Arg Ser Gly
    1175   1180   1185

Val Pro Thr Thr Thr Ile Pro Pro Ser Ile Pro Gly Val Val Thr
    1190   1195   1200

Ser Gln Val Thr Ser Ser Ala Thr Asp Thr Ser Thr Ala Ile Pro
    1205   1210   1215

Thr Leu Thr Pro Ser Pro Gly Glu Pro Glu Thr Thr Ala Ser Ser
    1220   1225   1230

Ala Thr His Pro Gly Thr Gln Thr Gly Phe Thr Val Pro Ile Arg
    1235   1240   1245

Thr Val Pro Ser Ser Glu Pro Asp Thr Met Ala Ser Trp Val Thr
    1250   1255   1260

His Pro Pro Gln Thr Ser Thr Pro Val Ser Arg Thr Thr Ser Ser
    1265   1270   1275

Phe Ser His Ser Ser Pro Asp Ala Thr Pro Val Met Ala Thr Ser
    1280   1285   1290

Pro Arg Thr Glu Ala Ser Ser Ala Val Leu Thr Thr Ile Ser Pro
    1295   1300   1305

Gly Ala Pro Glu Met Val Thr Ser Gln Ile Thr Ser Ser Gly Ala
    1310   1315   1320

Ala Thr Ser Thr Thr Val Pro Thr Leu Thr His Ser Pro Gly Met
    1325   1330   1335

Pro Glu Thr Thr Ala Leu Leu Ser Thr His Pro Arg Thr Glu Thr
    1340   1345   1350

Ser Lys Thr Phe Pro Ala Ser Thr Val Phe Pro Gln Val Ser Glu
    1355   1360   1365

Thr Thr Ala Ser Leu Thr Ile Arg Pro Gly Ala Glu Thr Ser Thr
    1370   1375   1380

Ala Leu Pro Thr Gln Thr Thr Ser Ser Leu Phe Thr Leu Leu Val
    1385   1390   1395

Thr Gly Thr Ser Arg Val Asp Leu Ser Pro Thr Ala Ser Pro Gly
    1400   1405   1410

Val Ser Ala Lys Thr Ala Pro Leu Ser Thr His Pro Gly Thr Glu

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          1415                      1420                      1425

Thr Ser  Thr Met Ile Pro Thr  Ser Thr Leu Ser Leu  Gly Leu Leu
          1430                      1435                      1440

Glu Thr  Thr Gly Leu Leu Ala  Thr Ser Ser Ser Ala  Glu Thr Ser
          1445                      1450                      1455

Thr Ser  Thr Leu Thr Leu Thr  Val Ser Pro Ala Val  Ser Gly Leu
          1460                      1465                      1470

Ser Ser  Ala Ser Ile Thr Thr  Asp Lys Pro Gln Thr  Val Thr Ser
          1475                      1480                      1485

Trp Asn  Thr Glu Thr Ser Pro  Ser Val Thr Ser Val  Gly Pro Pro
          1490                      1495                      1500

Glu Phe  Ser Arg Thr Val Thr  Gly Thr Thr Met Thr  Leu Ile Pro
          1505                      1510                      1515

Ser Glu  Met Pro Thr Pro Pro  Lys Thr Ser His Gly  Glu Gly Val
          1520                      1525                      1530

Ser Pro  Thr Thr Ile Leu Arg  Thr Thr Met Val Glu  Ala Thr Asn
          1535                      1540                      1545

Leu Ala  Thr Thr Gly Ser Ser  Pro Thr Val Ala Lys  Thr Thr Thr
          1550                      1555                      1560

Thr Phe  Asn Thr Leu Ala Gly  Ser Leu Phe Thr Pro  Leu Thr Thr
          1565                      1570                      1575

Pro Gly  Met Ser Thr Leu Ala  Ser Glu Ser Val Thr  Ser Arg Thr
          1580                      1585                      1590

Ser Tyr  Asn His Arg Ser Trp  Ile Ser Thr Thr Ser  Ser Tyr Asn
          1595                      1600                      1605

Arg Arg  Tyr Trp Thr Pro Ala  Thr Ser Thr Pro Val  Thr Ser Thr
          1610                      1615                      1620

Phe Ser  Pro Gly Ile Ser Thr  Ser Ser Ile Pro Ser  Ser Thr Ala
          1625                      1630                      1635

Ala Thr  Val Pro Phe Met Val  Pro Phe Thr Leu Asn  Phe Thr Ile
          1640                      1645                      1650

Thr Asn  Leu Gln Tyr Glu Glu  Asp Met Arg His Pro  Gly Ser Arg
          1655                      1660                      1665

Lys Phe  Asn Ala Thr Glu Arg  Glu Leu Gln Gly Leu  Leu Lys Pro
          1670                      1675                      1680

Leu Phe  Arg Asn Ser Ser Leu  Glu Tyr Leu Tyr Ser  Gly Cys Arg
          1685                      1690                      1695

Leu Ala  Ser Leu Arg Pro Glu  Lys Asp Ser Ser Ala  Met Ala Val
          1700                      1705                      1710
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Asp Ala  Ile Cys Thr His Arg  Pro Asp Pro Glu Asp  Leu Gly Leu
    1715             1720             1725

Asp Arg  Glu Arg Leu Tyr Trp  Glu Leu Ser Asn Leu  Thr Asn Gly
    1730             1735             1740

Ile Gln  Glu Leu Gly Pro Tyr  Thr Leu Asp Arg Asn  Ser Leu Tyr
    1745             1750             1755

Val Asn  Gly Phe Thr His Arg  Ser Ser Met Pro Thr  Thr Ser Thr
    1760             1765             1770

Pro Gly  Thr Ser Thr Val Asp  Val Gly Thr Ser Gly  Thr Pro Ser
    1775             1780             1785

Ser Ser  Pro Ser Pro Thr
    1790
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<210> 300

<211> 284

<212> PRT

<213> Homo sapiens

<400> 300

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Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys
1               5               10              15

Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu
            20              25              30

Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn
        35              40              45

Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn
    50              55              60

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His
65              70              75              80

Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser
            85              90              95

Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser
        100             105             110

Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg
        115             120             125

Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys
    130             135             140

Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn
145             150             155             160
```

Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala
            165   170   175

Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr
          180   185   190

Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val
      195   200   205

Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn
   210   215   220

Ser Asp Leu Pro Phe Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu
225   230   235   240

Leu Gly Leu Ile Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg
          245   250   255

Arg Arg Lys Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly
      260   265   270

Tyr Tyr Gln Ser His Leu Asp Leu Glu Asp Leu Gln
      275   280

<210> 301

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 301
gtctctatgt caatggtttc accc   24

<210> 302

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 302
tagctgctct ctgtccagtc c   21

<210> 303

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 303
ggacaaggtc accacactct ac   22

<210> 304

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 304
gcagatcctc caggtctagg tgtg   24

<210> 305

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 305
gtctctatgt caatggtttc accc   24

<210> 306

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 306
tagctgctct ctgtccagtc c   21